4.4.3 5000+ Feet AGL

4.4.3.1 Summary

Table 4-17: UC1 5000'+ AGL Test Conditions

Source	Rationale	Signal Type	Characteristics	Setting
VSG	5G Spurious IBI	AWGN	160 MHz centered at 4300 MHz	Power Sweep
VCOs 1-2	Own-ship multiplex installation	FMCW	CF: 4300 MHz BW/Sweep Rate per AUT	ON
VCOs 3-16	WCLS – other aircraft	FMCW		OFF

Table 4-18: UC1 5000'+ AGL In-Band Spurious Emissions Break Points

Altimeter	AGL	5000+ ft, Own-Ship VCOs			
		4300 MHz			
		ME	1%	99%	NCD
F	5000 ft	-71 dBm	-68 dBm	NB	-79 dBm
L	5000 ft	NB	NB	NB	-66 dBm
T	7000 ft	-69 dBm	-65 dBm	NB	-62 dBm
X	5000 ft	-76 dBm	-75 dBm	NB	-68 dBm
Y	5000 ft	-72 dBm	-68 dBm	NB	-79 dBm
ITM		-85 dBm			
PSD		-107 dBm/MHz			

4.4.3.2 Altimeter F

Table 4-19: UC1 RA-F 5000' AGL In-Band Spurious Emissions Break Point Summary

Center Frequency	Plot	Comments
4300 MHz	Time History Figure 4-30	Shows magnitude of change in measured height over time for increasing interference power levels.
	Statistics Figure 4-31 Figure 4-32	An NCD occurs at -79 dBm. Mean error exceeds the ±0.5% criterion threshold at -71 dBm. 1st percentile measured height is less than the -2% criterion threshold at -68 dBm.

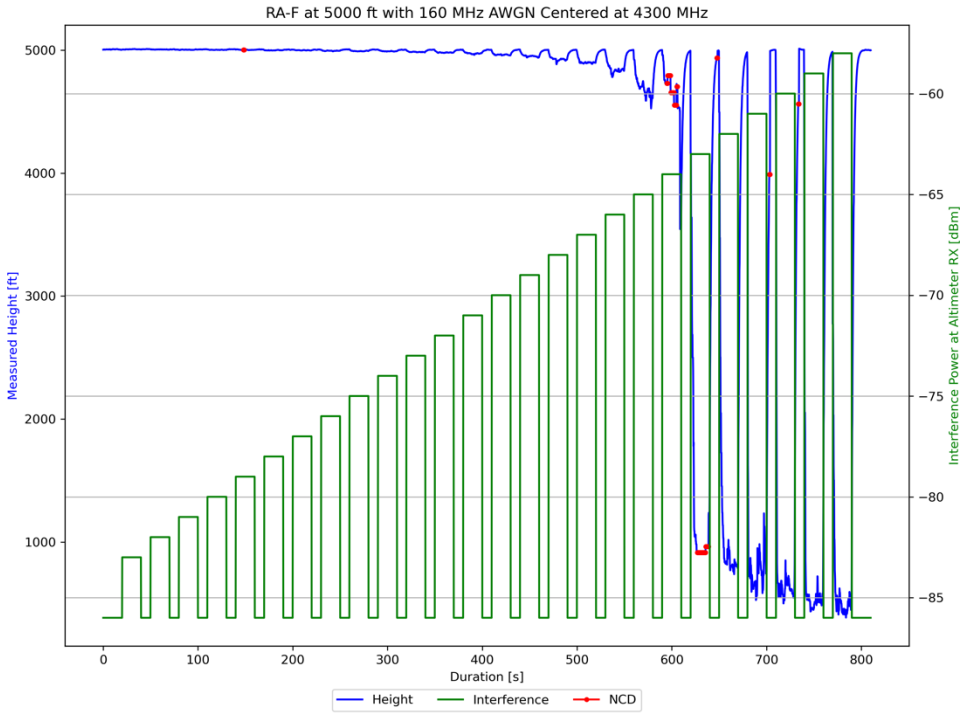

Figure 4-30: UC1 RA-F 5000' AGL Time History with AWGN at 4300 MHz

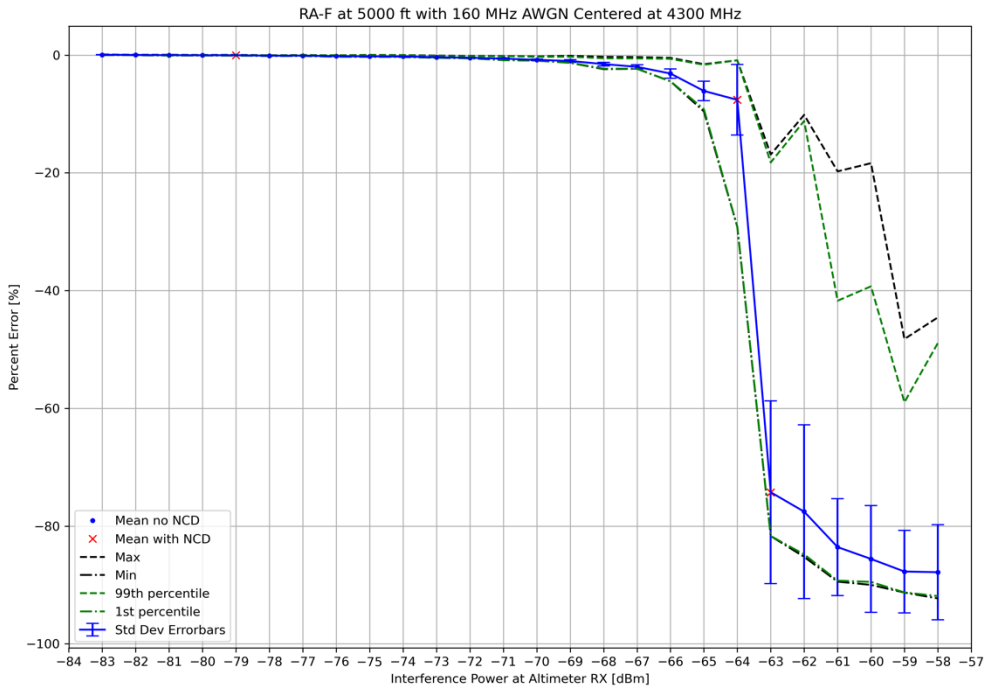

Figure 4-31: UC1 RA-F 5000' AGL Statistics with AWGN at 4300 MHz – Zoomed Out

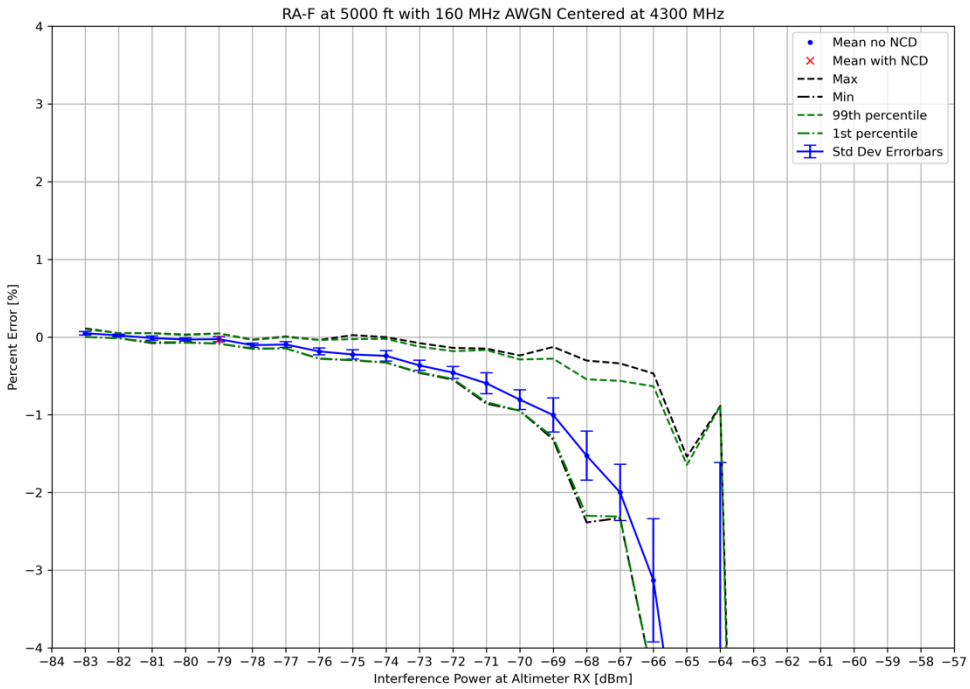

Figure 4-32: UC1 RA-F 5000' AGL Statistics with AWGN at 4300 MHz – Zoomed In

4.4.3.3 Altimeter L

Table 4-20: UC1 RA-L 5000' AGL In-Band Spurious Emissions Break Point Summary

Center Frequency	Plot	Comments
4300 MHz	Time History Figure 4-33	Shows magnitude of change in measured height over time for increasing interference power levels.
	Statistics Figure 4-34	An NCD occurs at -66 dBm.

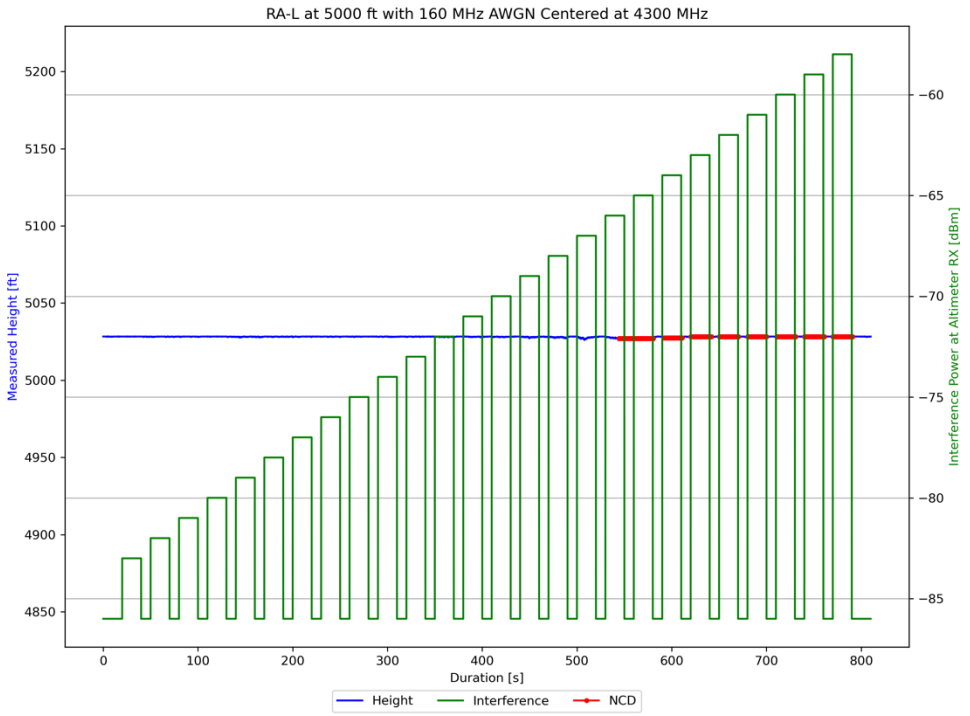

Figure 4-33: UC1 RA-L 5000' AGL Time History with AWGN at 4300 MHz

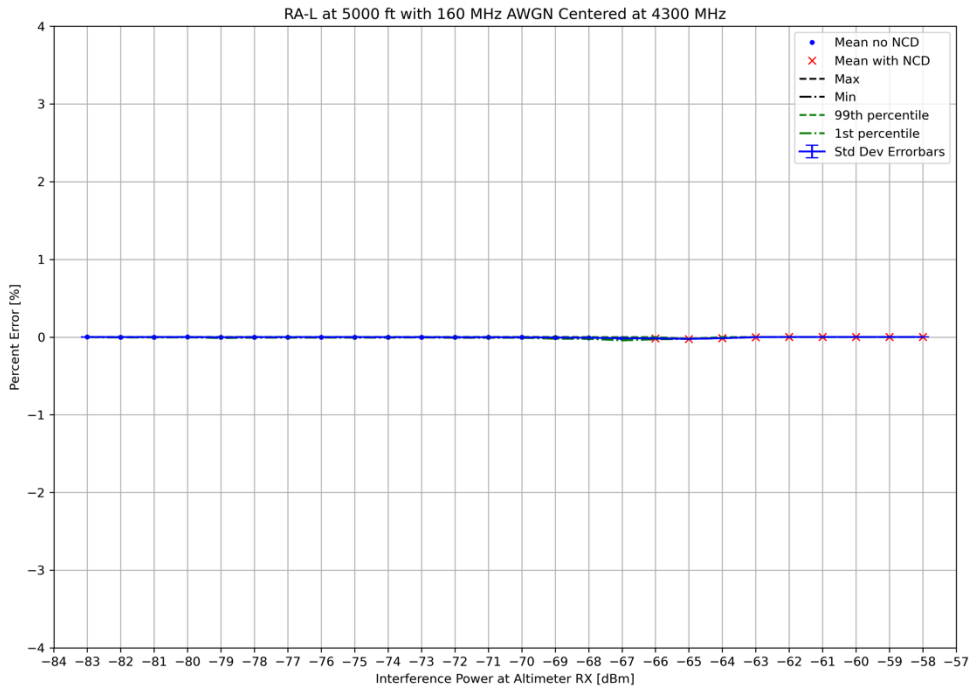

Figure 4-34: UC1 RA-L 5000' AGL Statistics with AWGN at 4300 MHz

4.4.3.4 Altimeter T

Table 4-21: UC1 RA-T 7000' AGL In-Band Spurious Emissions Break Point Summary

Center Frequency	Plot	Comments
4300 MHz	Time History Figure 4-35	Shows magnitude of change in measured height over time for increasing interference power levels.
	Statistics Figure 4-36 Figure 4-37	Mean error exceeds the ±0.5% criterion threshold at -69 dBm. 1st percentile measured height is less than the -2% criterion threshold at -65 dBm. An NCD occurs at -62 dBm.

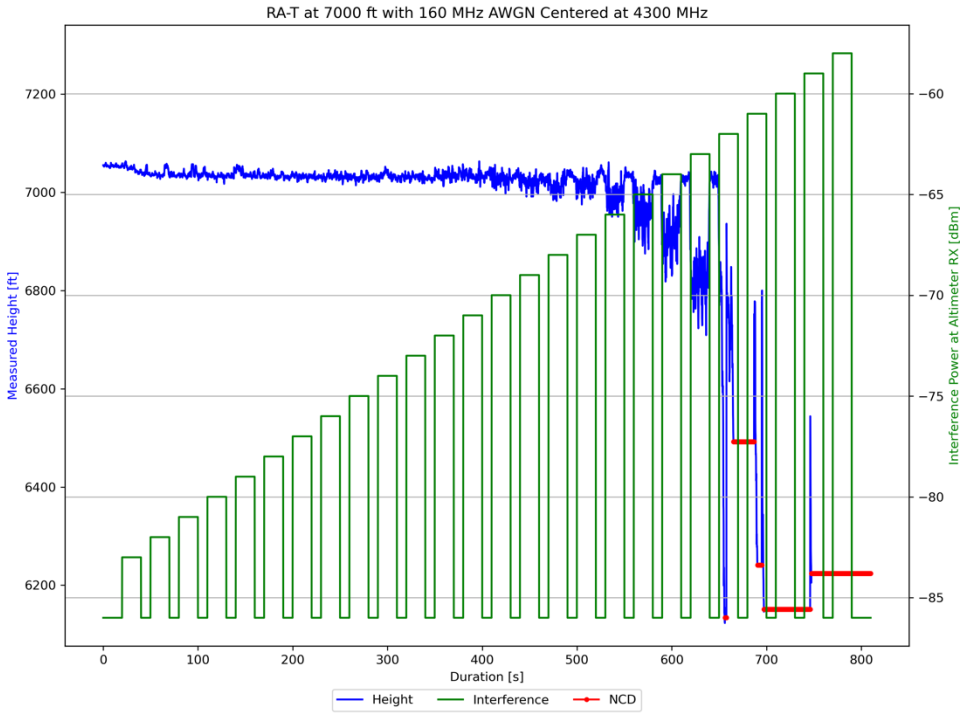

Figure 4-35: UC1 RA-T 7000' AGL Time History with AWGN at 4300 MHz

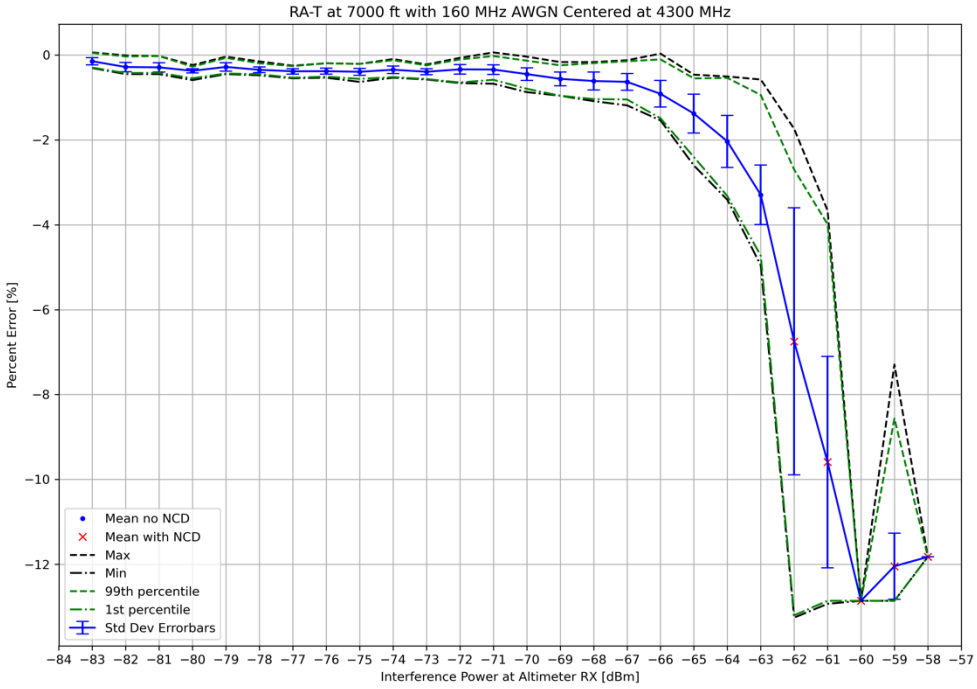

Figure 4-36: UC1 RA-T 7000' AGL Statistics with AWGN at 4300 MHz – Zoomed Out

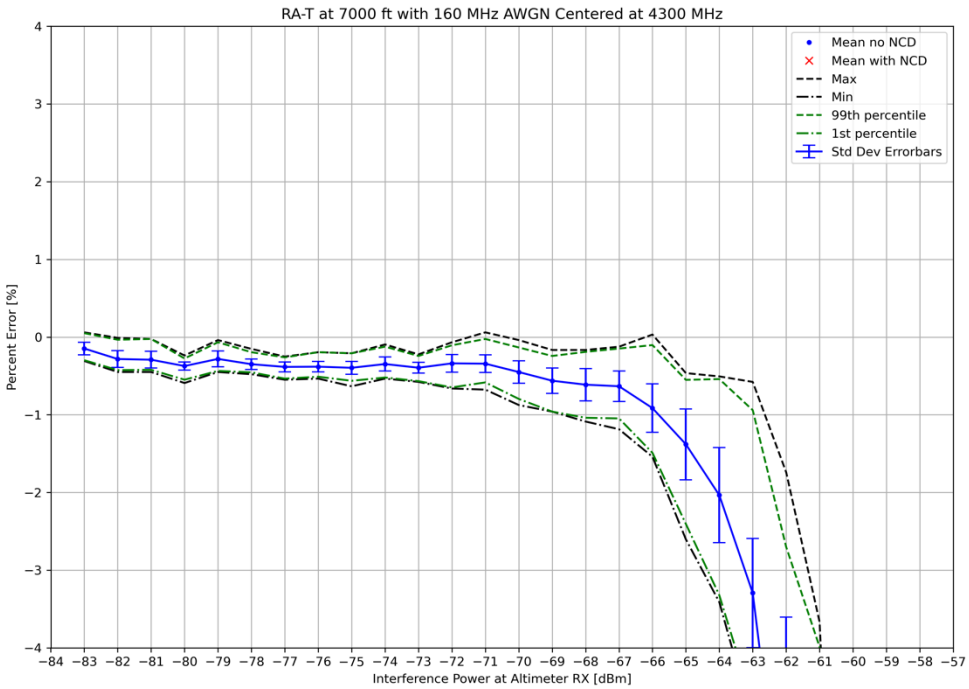

Figure 4-37: UC1 RA-T 7000' AGL Statistics with AWGN at 4300 MHz – Zoomed In

4.4.3.5 Altimeter X

Table 4-22: UC1 RA-X 5000' AGL In-Band Spurious Emissions Break Point Summary

Center Frequency	Plot	Comments
4300 MHz	Time History Figure 4-38	Shows magnitude of change in measured height over time for increasing interference power levels.
	Statistics Figure 4-39 Figure 4-40	Mean error exceeds the ±0.5% criterion threshold at -76 dBm. 1st percentile measured height is less than the -2% criterion threshold at -75 dBm. An NCD occurs at -68 dBm.

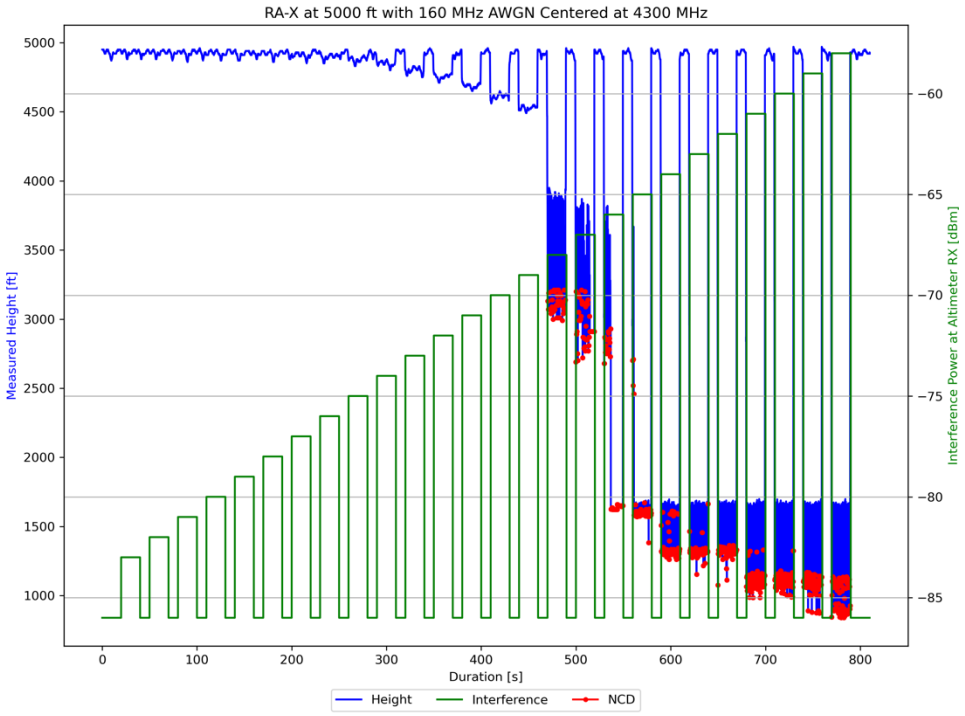

Figure 4-38: UC1 RA-X 5000' AGL Time History with AWGN at 4300 MHz

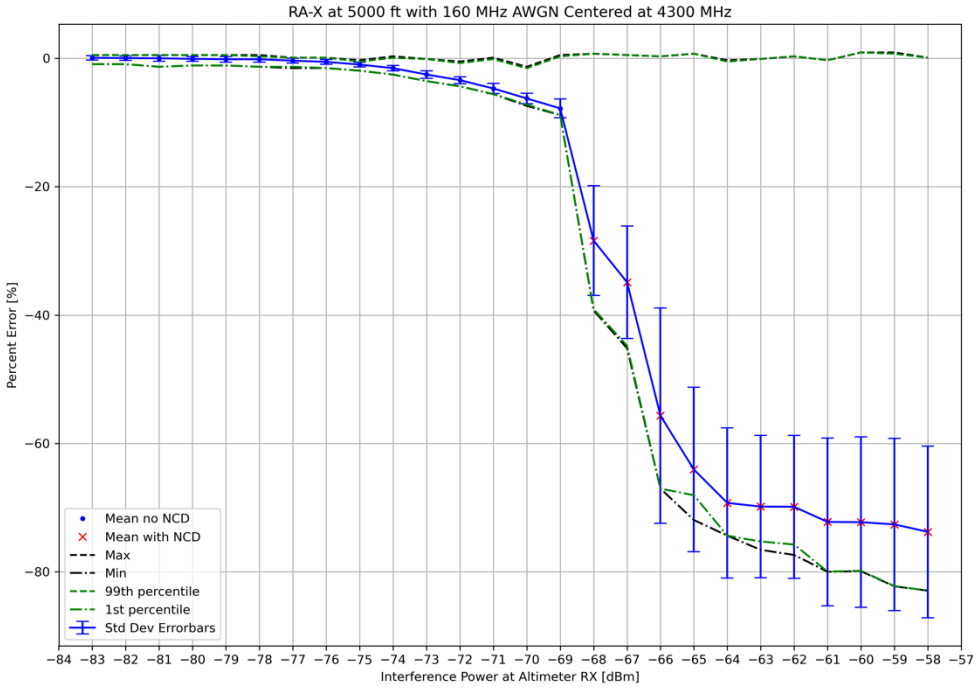

Figure 4-39: UC1 RA-X 5000' AGL Statistics with AWGN at 4300 MHz – Zoomed Out

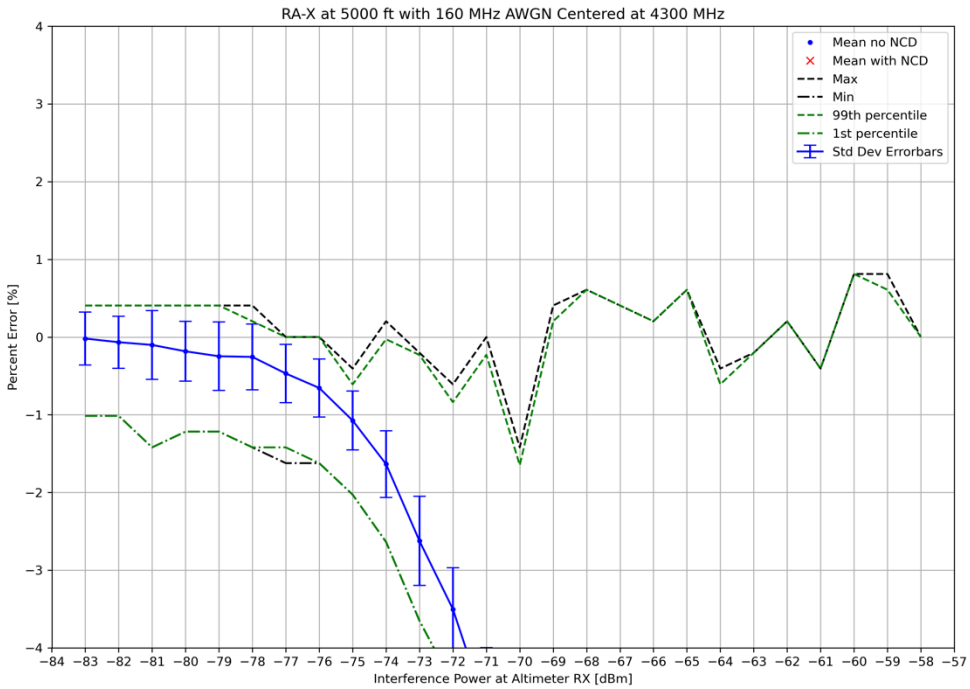

Figure 4-40: UC1 RA-X 5000' AGL Statistics with AWGN at 4300 MHz – Zoomed In

4.4.3.6 Altimeter Y

Table 4-23: UC1 RA-Y 5000' AGL In-Band Spurious Emissions Break Point Summary

Center Frequency	Plot	Comments
4300 MHz	Time History Figure 4-41	Shows magnitude of change in measured height over time for increasing interference power levels.
	Statistics Figure 4-42 Figure 4-43	An NCD occurs at -79 dBm. Mean error exceeds the ±0.5% criterion threshold at -72 dBm. 1st percentile measured height is less than the -2% criterion threshold at -68 dBm.

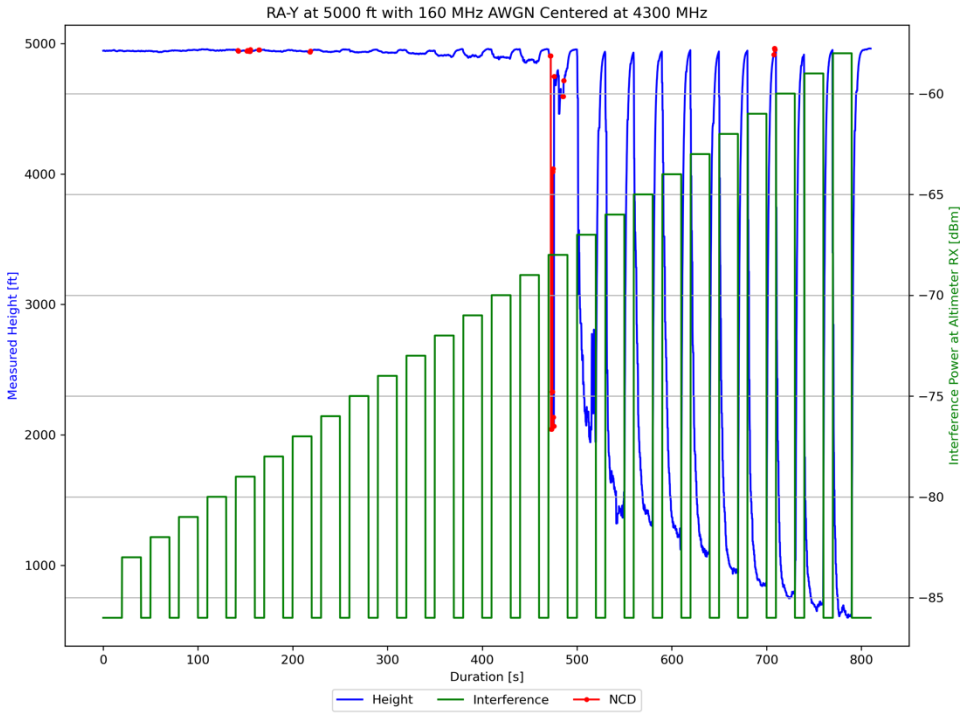

Figure 4-41: UC1 RA-Y 5000' AGL Time History with AWGN at 4300 MHz

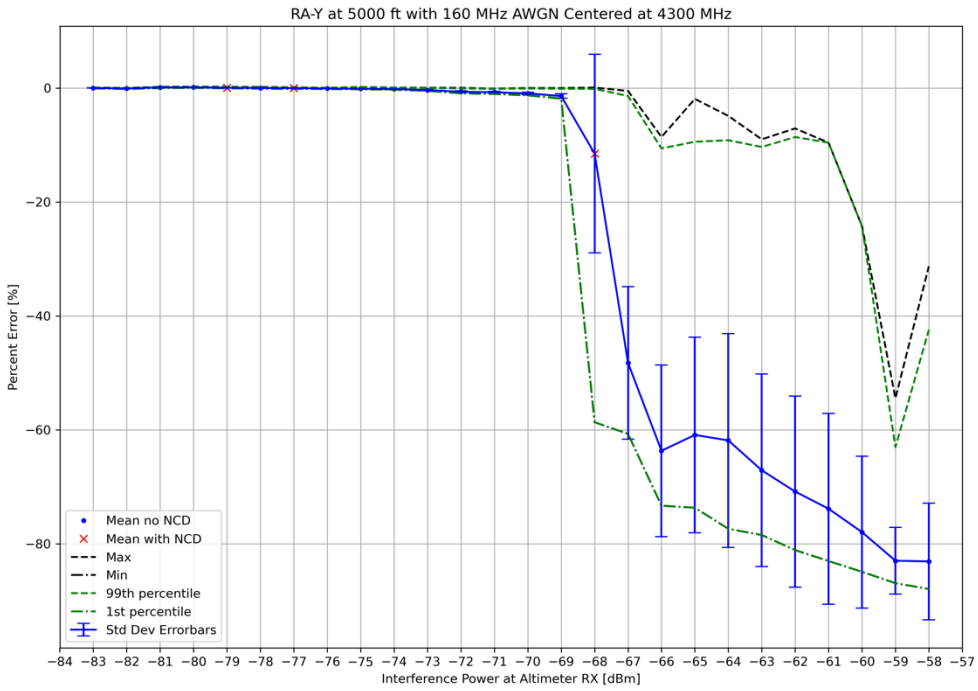

Figure 4-42: UC1 RA-Y 5000' AGL Statistics with AWGN at 4300 MHz – Zoomed Out

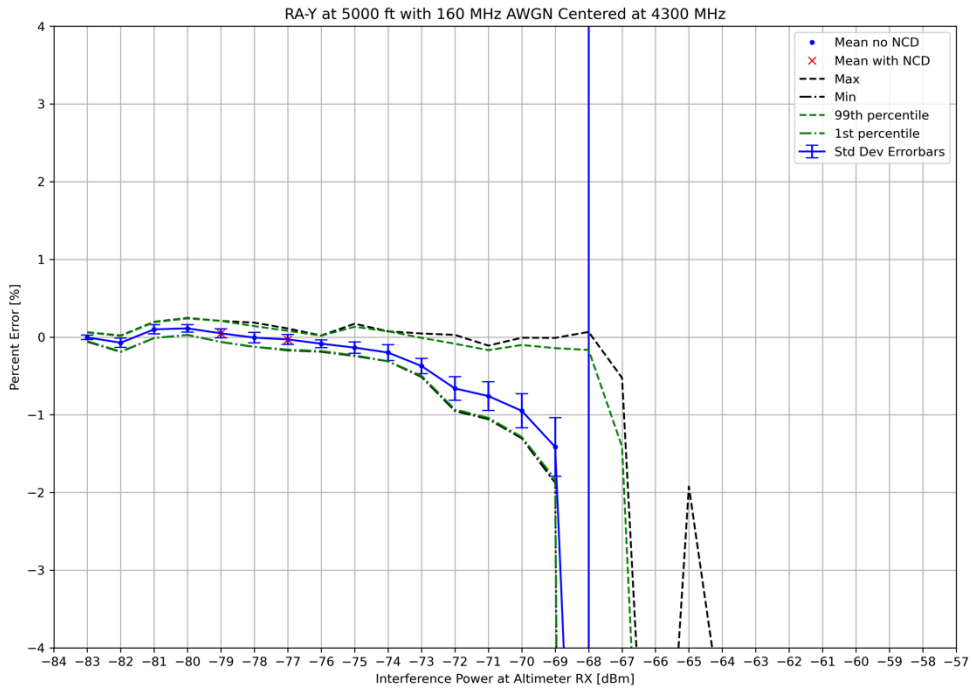

Figure 4-43: UC1 RA-Y 5000' AGL Statistics with AWGN at 4300 MHz – Zoomed In

4.5 Usage Category 2

4.5.1 200 Feet AGL

4.5.1.1 Summary

Table 4-24: UC2 200' AGL Test Conditions

Source	Rationale	Signal Type	Characteristics	Setting
VSG	5G Spurious IBI	AWGN	160 MHz centered at 4300 MHz	Power Sweep
VCOs 1-2	Own-ship multiplex installation	FMCW	CF: 4300 MHz BW/Sweep Rate per AUT	ON*
VCOs 3-16	WCLS – other aircraft	FMCW mixed	CF: 4300 MHz BW/Sweep Rate per Vol. I Table 2-4	ON

* – For altimeters capable of multiplex operation. Altimeters I and V had VCOs 1-2 turned off.

Table 4-25: UC2 200' AGL In-Band Spurious Emissions Break Points

Altimeter	200 ft, VCOs On (WCLS)			
	4300 MHz			
	ME	1%	99%	NCD
A	-43 dBm	NB	-43 dBm	-43 dBm
I	-81 dBm	-85 dBm	-85 dBm	-84 dBm*
S	-40 dBm	-42 dBm*	NB	NB
V	-64 dBm*	-85 dBm	-81 dBm	NB
ITM	-90 dBm			
PSD	-112 dBm/MHz			

4.5.1.2 Altimeter A

Table 4-26: UC2 RA-A 200' AGL In-Band Spurious Emissions Break Point Summary

Center Frequency	Plot	Comments
4300 MHz	Time History Figure 4-44	Shows magnitude of change in measured height over time for increasing interference power levels.
	Statistics Figure 4-45 Figure 4-46	An NCD occurs at -43 dBm. Mean error exceeds the ±0.5% criterion threshold at -43 dBm. 99th percentile measured height is greater than the +2% criterion threshold at -43 dBm.

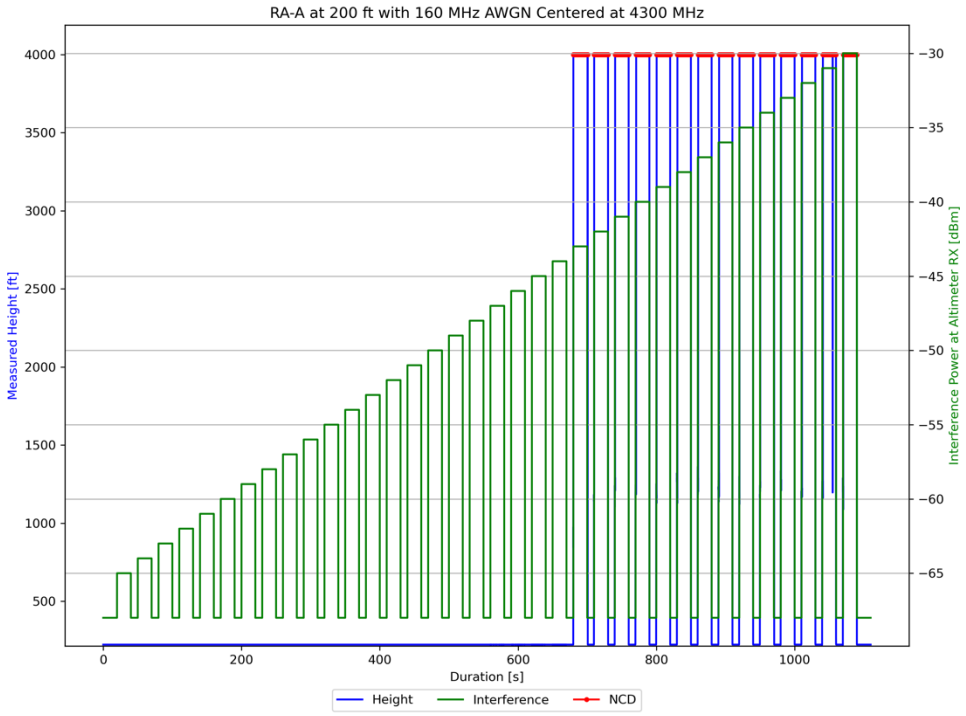

Figure 4-44: UC2 RA-A 200' AGL Time History with AWGN at 4300 MHz

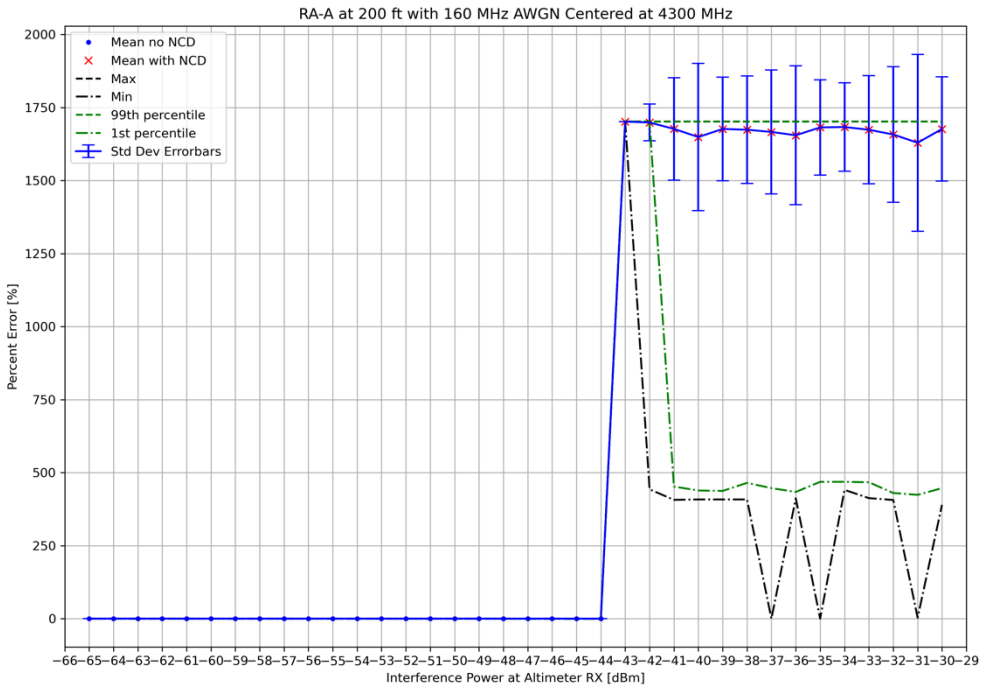

Figure 4-45: UC2 RA-A 200' AGL Statistics with AWGN at 4300 MHz – Zoomed Out

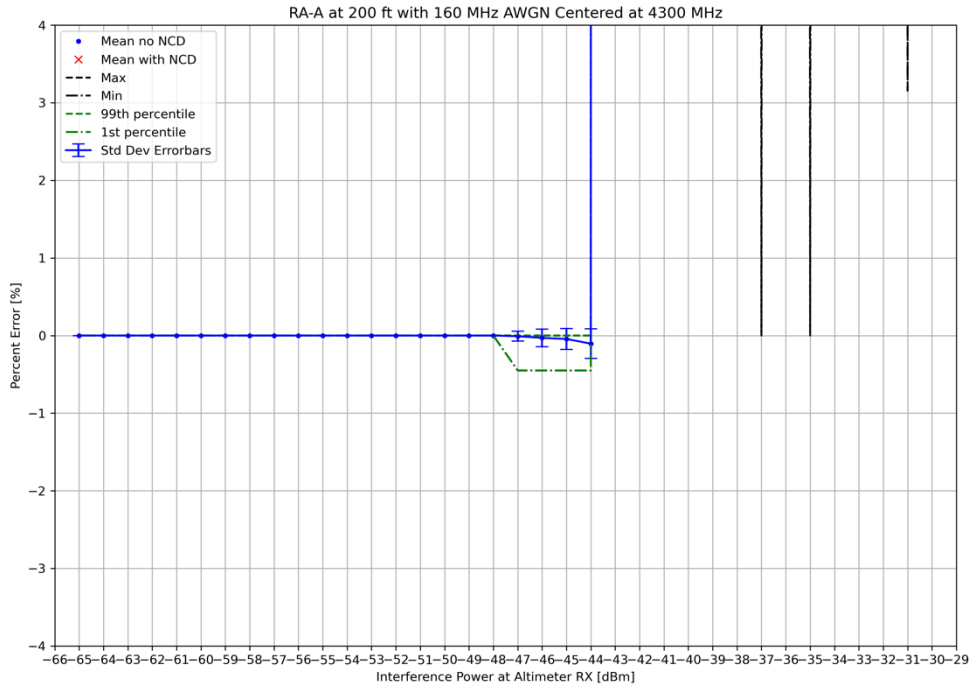

Figure 4-46: UC2 RA-A 200' AGL Statistics with AWGN at 4300 MHz – Zoomed In

4.5.1.3 Altimeter I

For Altimeter I at 200 feet AGL, valid measured heights appear to be rounded to the nearest 5 feet. Subject matter experts agreed it was necessary to apply engineering judgement to take this height quantization into account when determining the break points.

Table 4-27: UC2 RA-I 200' AGL In-Band Spurious Emissions Break Point Summary

Center Frequency	Plot	Comments
4300 MHz	Time History Figure 4-47	Shows magnitude of change in measured height over time for increasing interference power levels.
	Statistics Figure 4-48 Figure 4-49	1st percentile measured height is less than the -2% criterion threshold at -85 dBm. 99th percentile measured height is greater than the +2% criterion threshold at -85 dBm. An NCD occurs at -84 dBm. Mean error exceeds the ±0.5% criterion threshold at -81 dBm. Despite the 1st percentile and 99th percentile criteria being met at -85 dBm, subject matter experts agreed that in this case engineering judgement should be applied to use the higher NCD break point at -84 dBm.

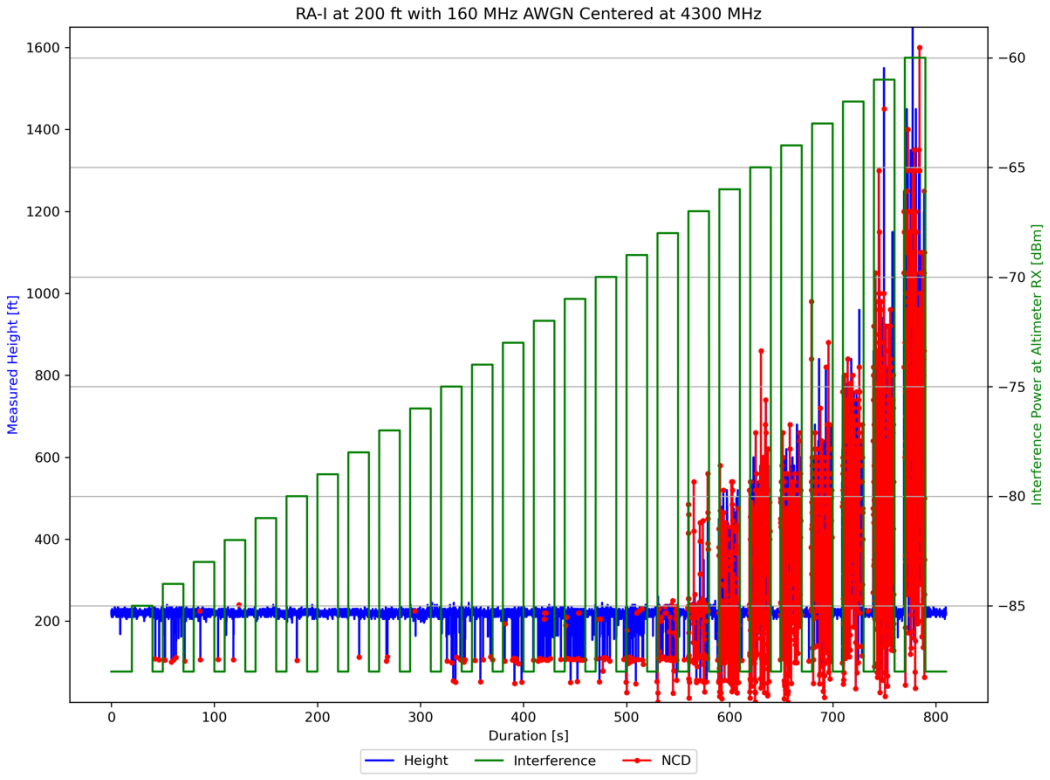

Figure 4-47: UC2 RA-I 200' AGL Time History with AWGN at 4300 MHz

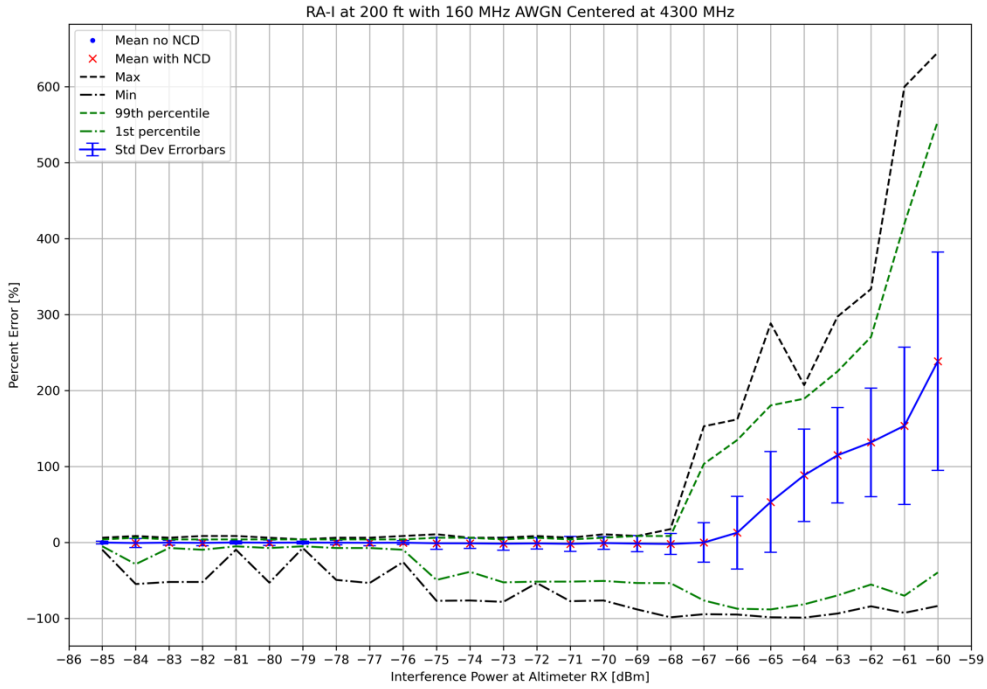

Figure 4-48: UC2 RA-I 200' AGL Statistics with AWGN at 4300 MHz – Zoomed Out

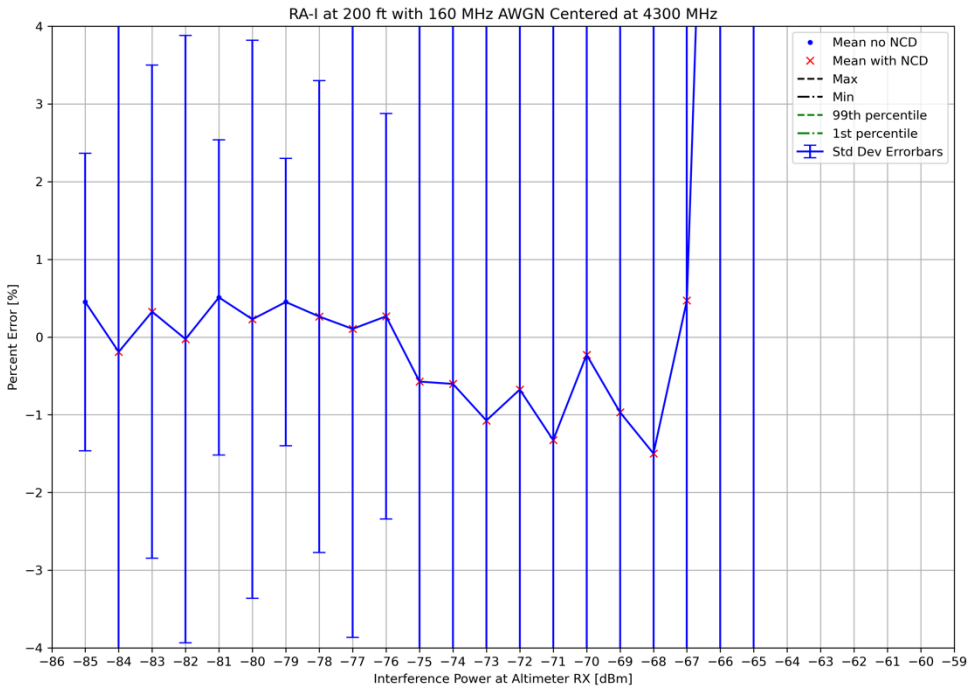

Figure 4-49: UC2 RA-I 200' AGL Statistics with AWGN at 4300 MHz – Zoomed In

4.5.1.4 Altimeter S

Table 4-28: UC2 RA-S 200' AGL In-Band Spurious Emissions Break Point Summary

Center Frequency	Plot	Comments
4300 MHz	Time History Figure 4-50	Shows magnitude of change in measured height over time for increasing interference power levels.
	Statistics Figure 4-51 Figure 4-52	1st percentile measured height is less than the -2% criterion threshold at -41 dBm. Mean error exceeds the ±0.5% criterion threshold at -40 dBm. However, the time history plot in Figure 4-50 shows that the impact of IBI on the measured height becomes noticeable around -45 dBm, and is clearly evident at -42 dBm. This is reflected more in the change in the 1st percentile height than in the mean error, so subject matter experts applied engineering judgement to set the break point at -42 dBm and attribute this to the 1st percentile criterion.

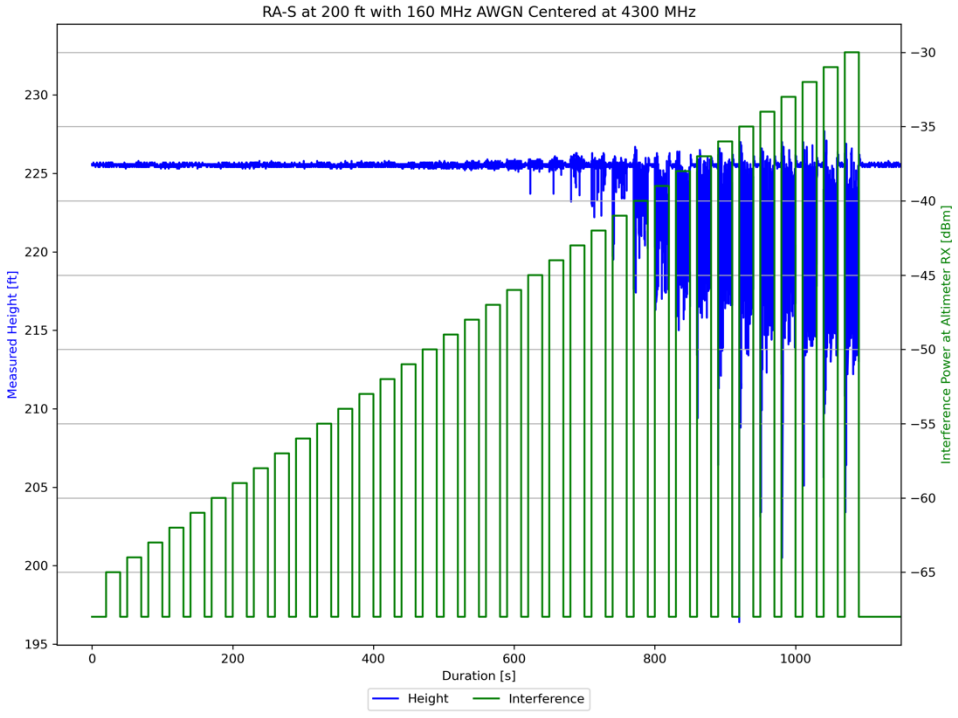

Figure 4-50: UC2 RA-S 200' AGL Time History with AWGN at 4300 MHz

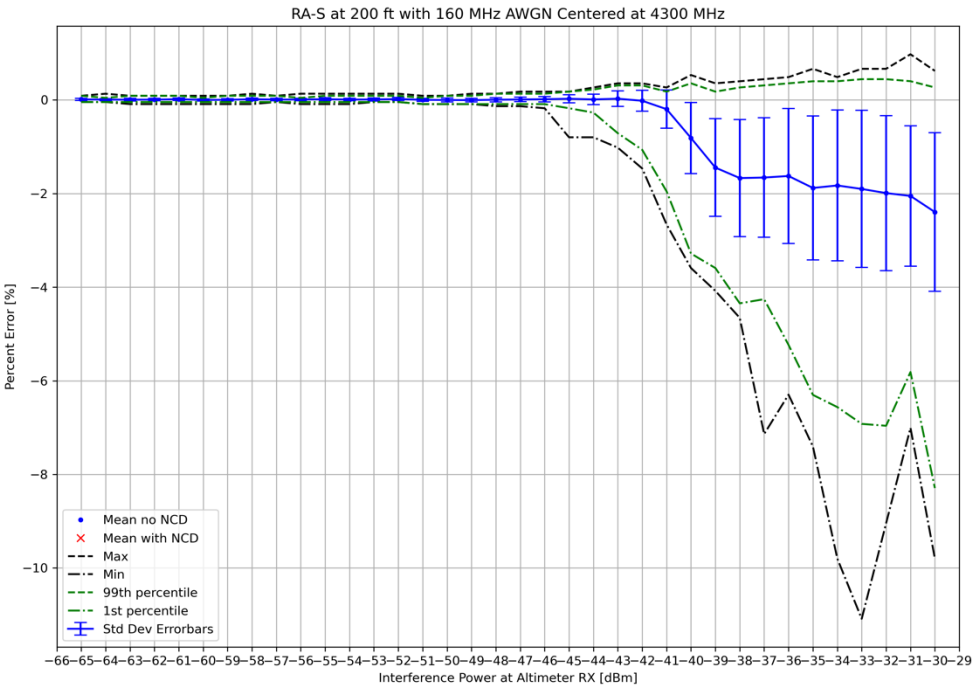

Figure 4-51: UC2 RA-S 200' AGL Statistics with AWGN at 4300 MHz – Zoomed Out

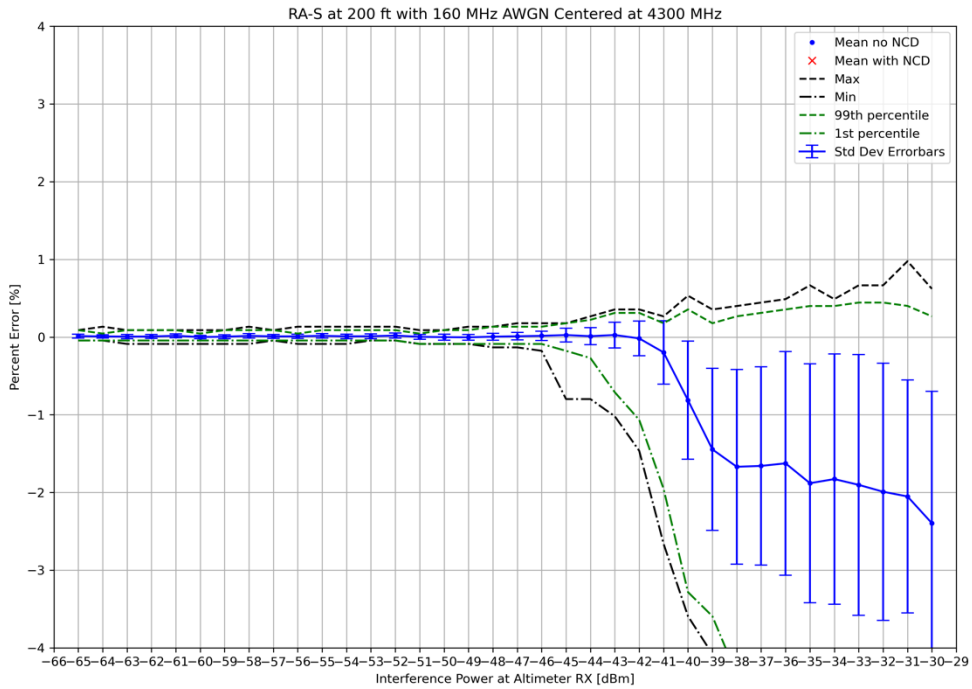

Figure 4-52: UC2 RA-S 200' AGL Statistics with AWGN at 4300 MHz – Zoomed In

4.5.1.5 Altimeter V

Table 4-29: UC2 RA-V 200' AGL In-Band Spurious Emissions Break Point Summary

Center Frequency	Plot	Comments
4300 MHz	Time History Figure 4-53	Shows magnitude of change in measured height over time for increasing interference power levels.
	Statistics Figure 4-54 Figure 4-55	Mean error exceeds the ±0.5% criterion threshold at -85 dBm. 1st percentile measured height is less than the -2% criterion threshold at -85 dBm. 99th percentile measured height is greater than the +2% criterion threshold at -81 dBm. Despite the mean error, 1st percentile and 99th percentile criteria being met at lower values, the time history plot in Figure 4-53 shows that the oscillations in the measured height between -85 dBm and approximately -68 dBm do not correlate with the application of IBI. Above that power, the changes in measured height begin to correlate with the application of IBI. Considering the statistical plot in Figure 4-54 above -68 dBm, the 1st percentile goes below -2% at -66 dBm, but the mean error and 99th percentile criteria thresholds are breached at -64 dBm. Given the measured height quantization that is evident in the time history plot, subject matter experts applied engineering judgement to determine that the break point is set by the mean error criterion at -64 dBm.

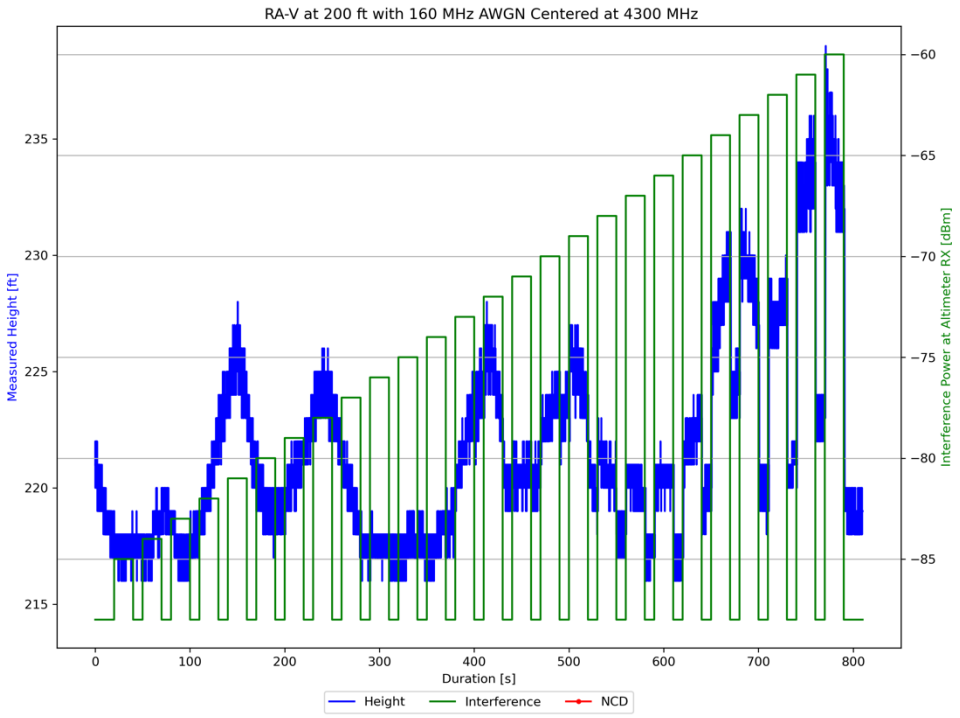

Figure 4-53: UC2 RA-V 200' AGL Time History with AWGN at 4300 MHz

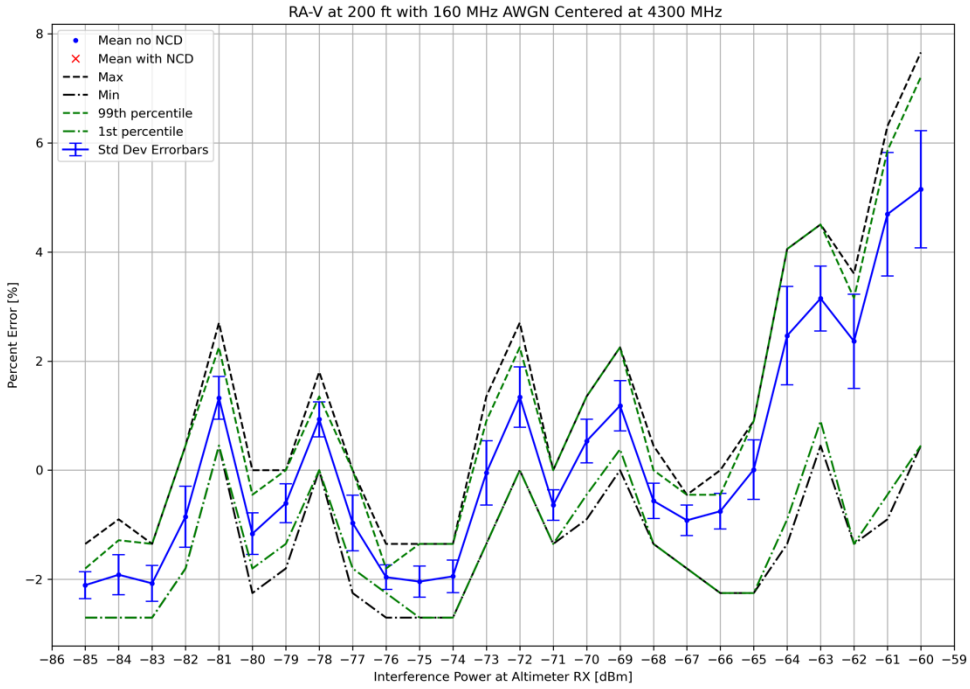

Figure 4-54: UC2 RA-V 200' AGL Statistics with AWGN at 4300 MHz – Zoomed Out

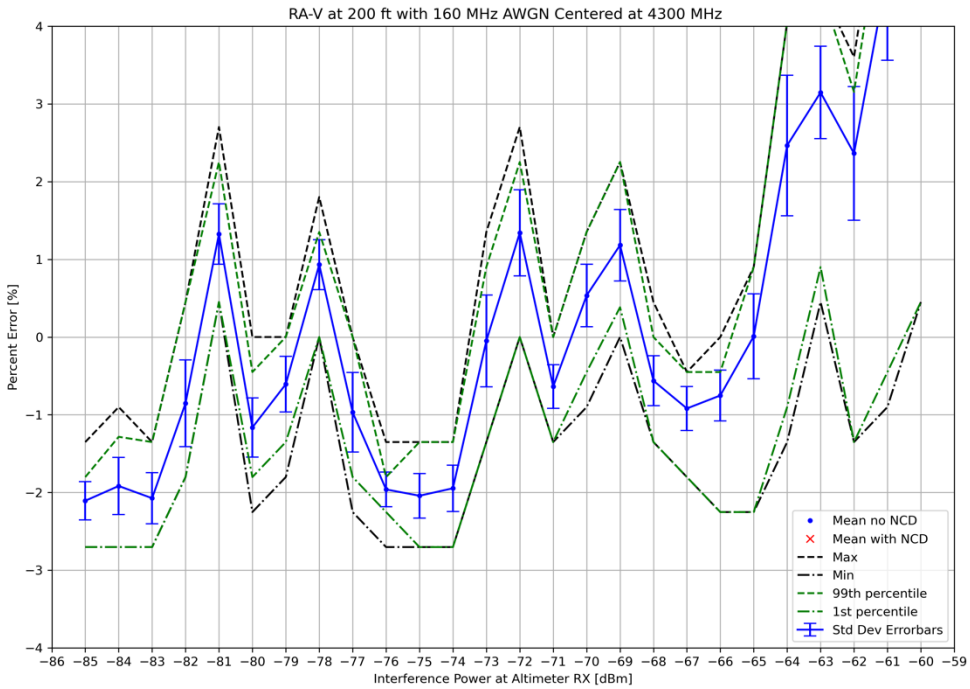

Figure 4-55: UC2 RA-V 200' AGL Statistics with AWGN at 4300 MHz – Zoomed In

4.5.2 1000 Feet AGL

4.5.2.1 Summary

Table 4-30: UC2 1000' AGL Test Conditions

Source	Rationale	Signal Type	Characteristics	Setting
VSG	5G Spurious IBI	AWGN	160 MHz centered at 4300 MHz	Power Sweep
VCOs 1-2	Own-ship multiplex installation	FMCW	CF: 4300 MHz BW/Sweep Rate per AUT	ON*
VCOs 3-16	WCLS – other aircraft	FMCW		OFF

* – For altimeters capable of multiplex operation. Altimeters I and V had VCOs 1-2 turned off.

Table 4-31: UC2 1000' AGL In-Band Spurious Emissions Break Points

Altimeter	1000 ft, Own-Ship VCOs			
	4300 MHz			
	ME	1%	99%	NCD
A	-47 dBm	-48 dBm	-48 dBm	-47 dBm
I	-74 dBm	-73 dBm	-75 dBm	-73 dBm*
S	-52 dBm	-50 dBm	-40 dBm	-40 dBm
V	-75 dBm	NB	-75 dBm	-75 dBm
ITM	-81 dBm			
PSD	-103 dBm/MHz			

4.5.2.2 Altimeter A

Table 4-32: UC2 RA-A 1000' AGL In-Band Spurious Emissions Break Point Summary

Center Frequency	Plot	Comments
4300 MHz	Time History Figure 4-56	Shows magnitude of change in measured height over time for increasing interference power levels.
	Statistics Figure 4-57 Figure 4-58	1st percentile measured height is less than the -2% criterion threshold at -48 dBm. 99th percentile measured height is greater than the +2% criterion threshold at -48 dBm. An NCD occurs at -47 dBm. Mean error exceeds the ±0.5% criterion threshold at -47 dBm.

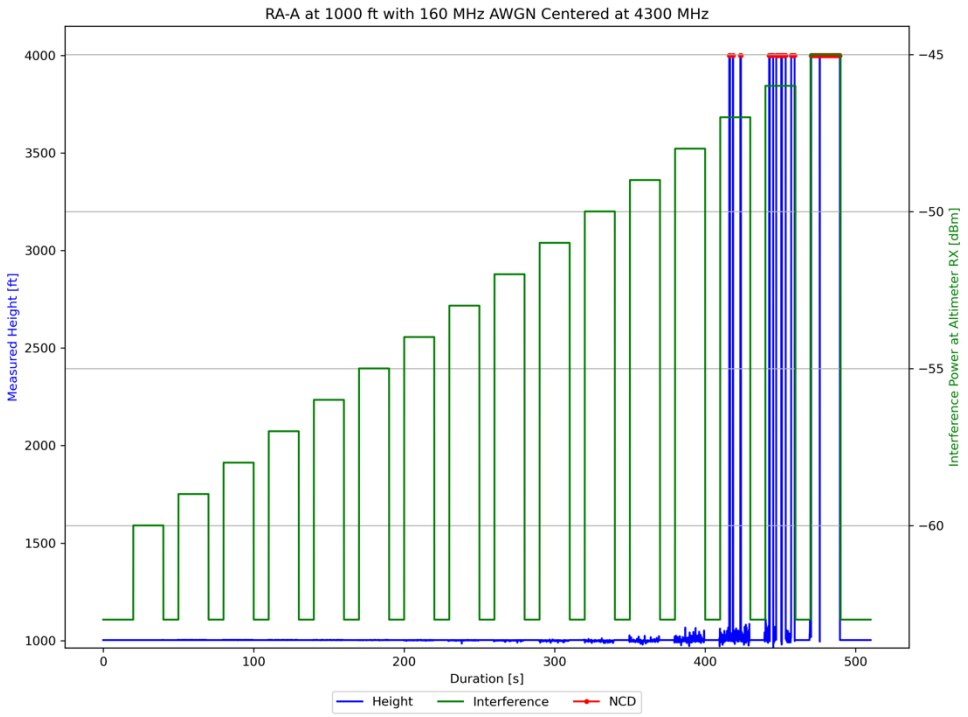

Figure 4-56: UC2 RA-A 1000' AGL Time History with AWGN at 4300 MHz

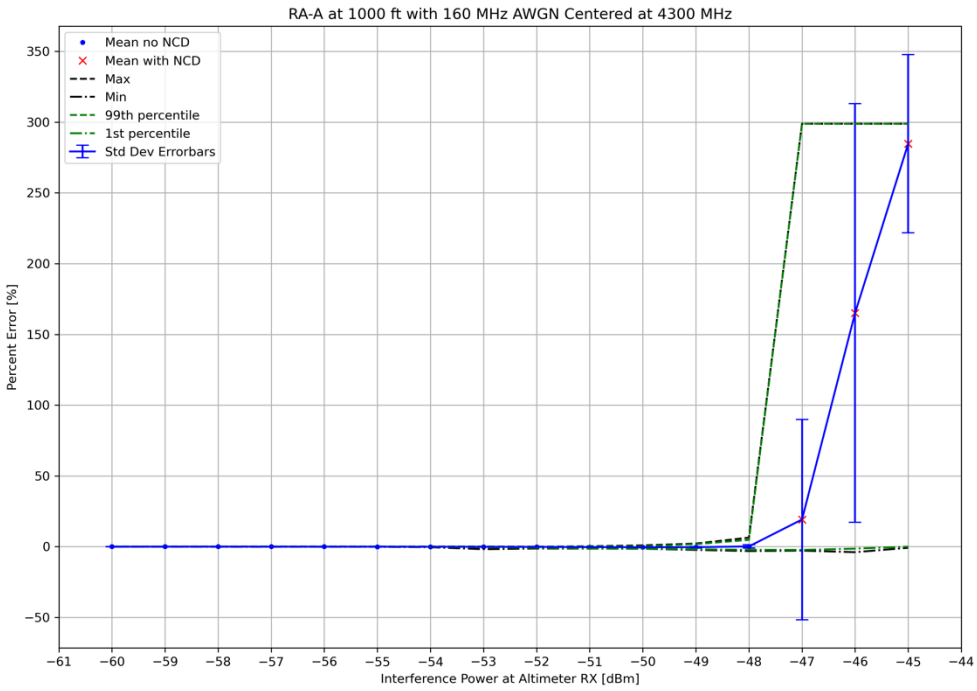

Figure 4-57: UC2 RA-A 1000' AGL Statistics with AWGN at 4300 MHz – Zoomed Out

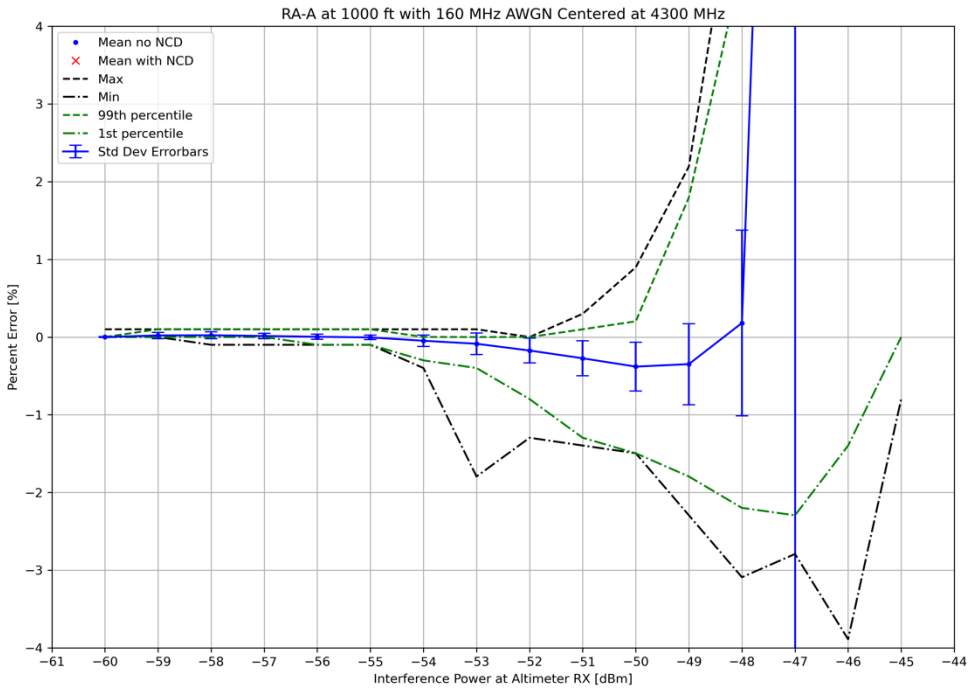

Figure 4-58: UC2 RA-A 1000' AGL Statistics with AWGN at 4300 MHz – Zoomed In

4.5.2.3 Altimeter I

For Altimeter I at 1000 feet AGL, valid measured heights appear to be rounded to the nearest 50 feet. Subject matter experts agreed it was necessary to apply engineering judgement to take this height quantization into account when determining the break points.

Table 4-33: UC2 RA-I 1000' AGL In-Band Spurious Emissions Break Point Summary

Center Frequency	Plot	Comments
4300 MHz	Time History Figure 4-59	Shows magnitude of change in measured height over time for increasing interference power levels.
	Statistics Figure 4-60 Figure 4-61	99th percentile measured height is greater than the +2% criterion threshold at -75 dBm. Mean error exceeds the ±0.5% criterion threshold at -74 dBm. An NCD occurs at -73 dBm. 1st percentile measured height is less than the -2% criterion threshold at -73 dBm. Despite the 99th percentile and mean error criteria being met at -75 dBm and -74 dBm, respectively, subject matter experts agreed that in this case engineering judgement should be applied to use the higher NCD break point at -73 dBm.

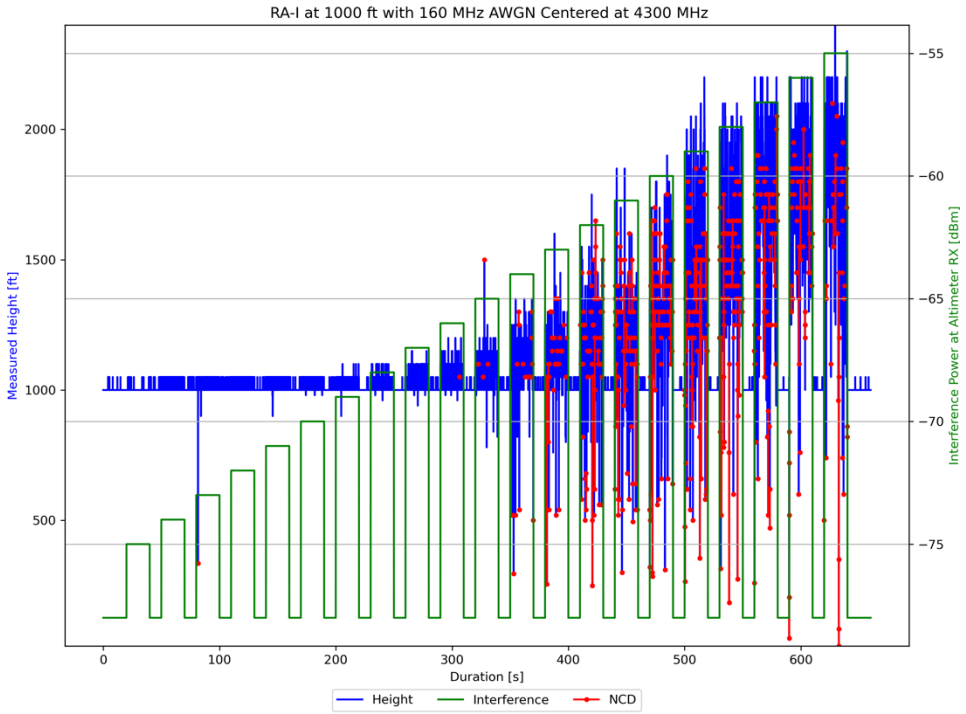

Figure 4-59: UC2 RA-I 1000' AGL Time History with AWGN at 4300 MHz

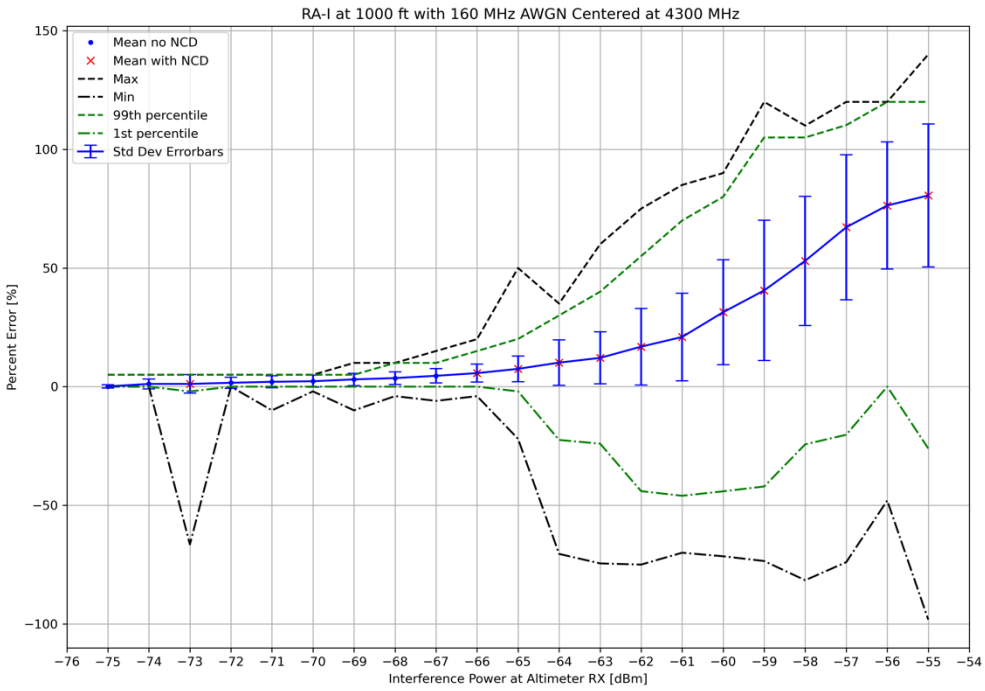

Figure 4-60: UC2 RA-I 1000' AGL Statistics with AWGN at 4300 MHz – Zoomed Out

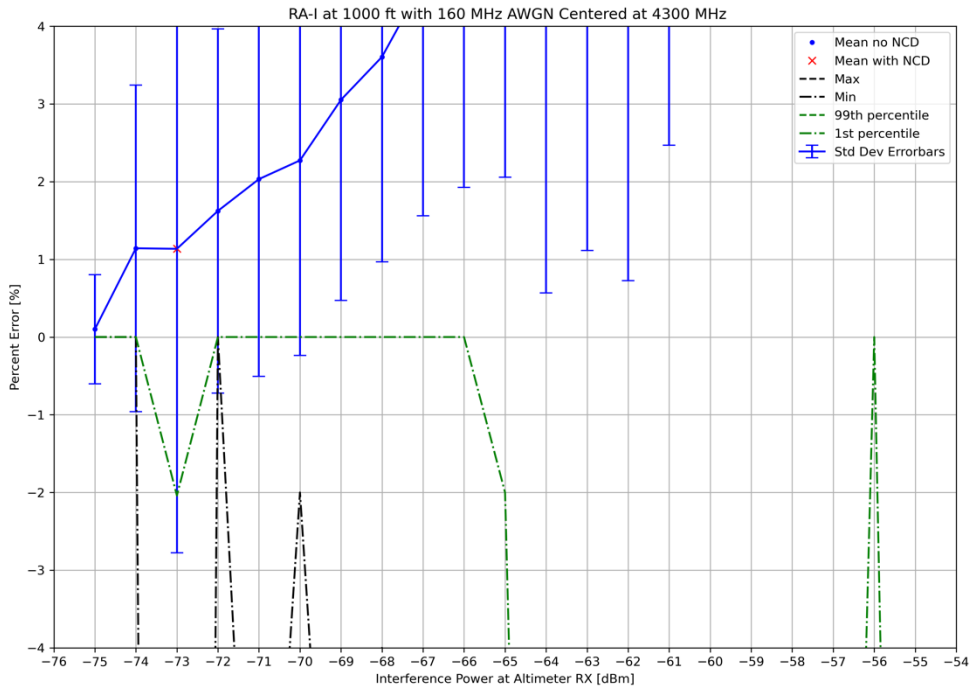

Figure 4-61: UC2 RA-I 1000' AGL Statistics with AWGN at 4300 MHz – Zoomed In

4.5.2.4 Altimeter S

Table 4-34: UC2 RA-S 1000' AGL In-Band Spurious Emissions Break Point Summary

Center Frequency	Plot	Comments
4300 MHz	Time History Figure 4-62	Shows magnitude of change in measured height over time for increasing interference power levels.
	Statistics Figure 4-63 Figure 4-64	Mean error exceeds the ±0.5% criterion threshold at -52 dBm. 1st percentile measured height is less than the -2% criterion threshold at -50 dBm. An NCD occurs at -40 dBm. 99th percentile measured height is greater than the +2% criterion threshold at -40 dBm.

Figure 4-62: UC2 RA-S 1000' AGL Time History with AWGN at 4300 MHz

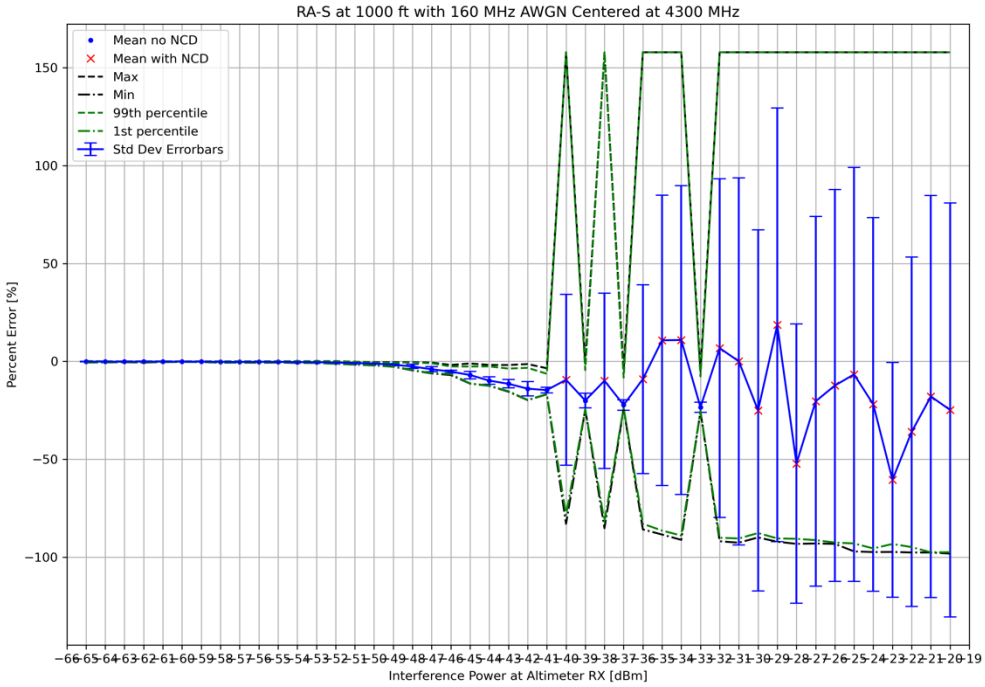

Figure 4-63: UC2 RA-S 1000' AGL Statistics with AWGN at 4300 MHz – Zoomed Out

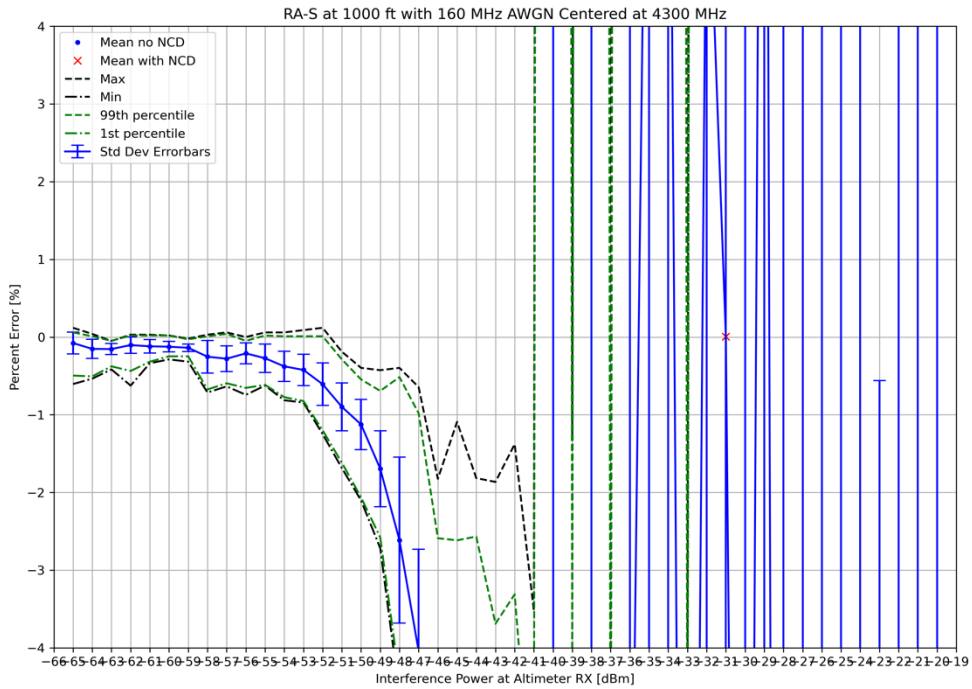

Figure 4-64: UC2 RA-S 1000' AGL Statistics with AWGN at 4300 MHz – Zoomed In

4.5.2.5 Altimeter V

Table 4-35: UC2 RA-V 1000' AGL In-Band Spurious Emissions Break Point Summary

Center Frequency	Plot	Comments
4300 MHz	Time History Figure 4-65	Shows magnitude of change in measured height over time for increasing interference power levels.
	Statistics Figure 4-66 Figure 4-67	An NCD occurs at -75 dBm. Mean error exceeds the ±0.5% criterion threshold at -75 dBm. 99th percentile measured height is greater than the +2% criterion threshold at -75 dBm.

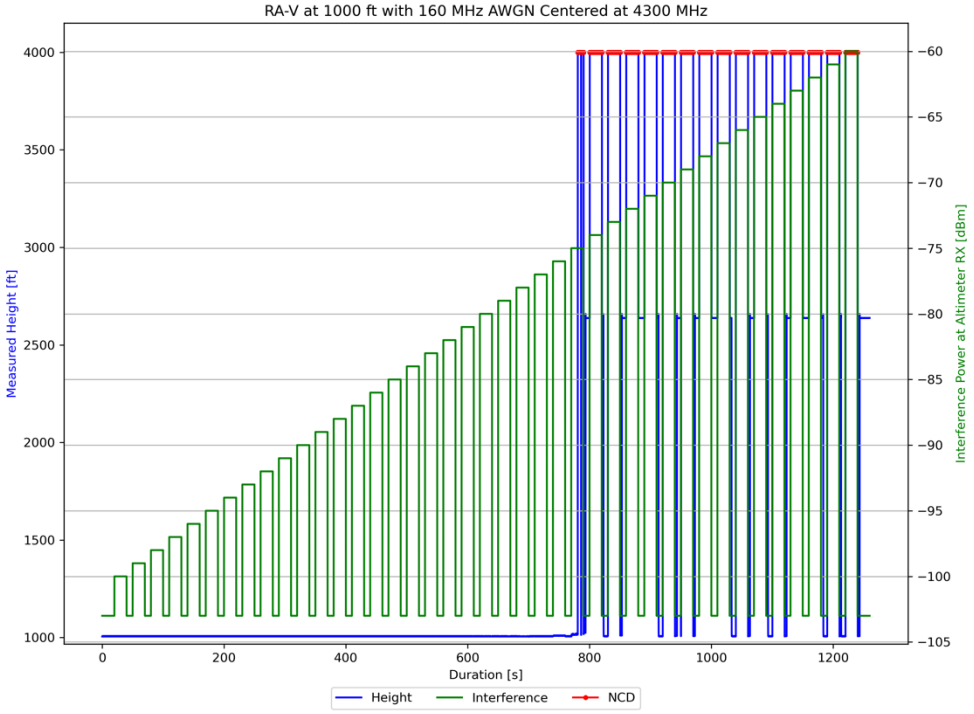

Figure 4-65: UC2 RA-V 1000' AGL Time History with AWGN at 4300 MHz

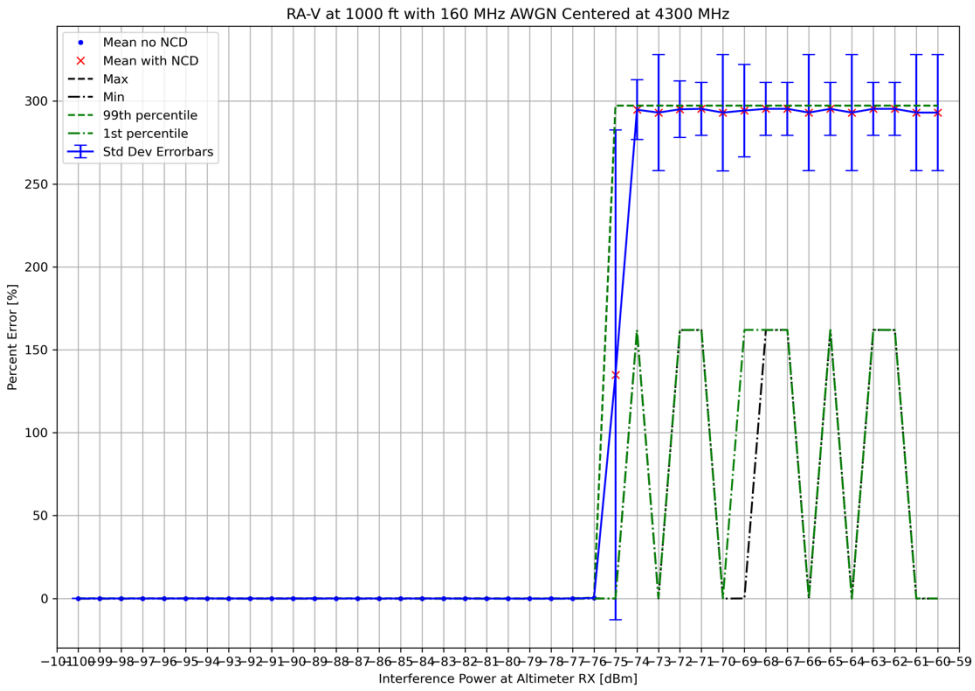

Figure 4-66: UC2 RA-V 1000' AGL Statistics with AWGN at 4300 MHz – Zoomed Out

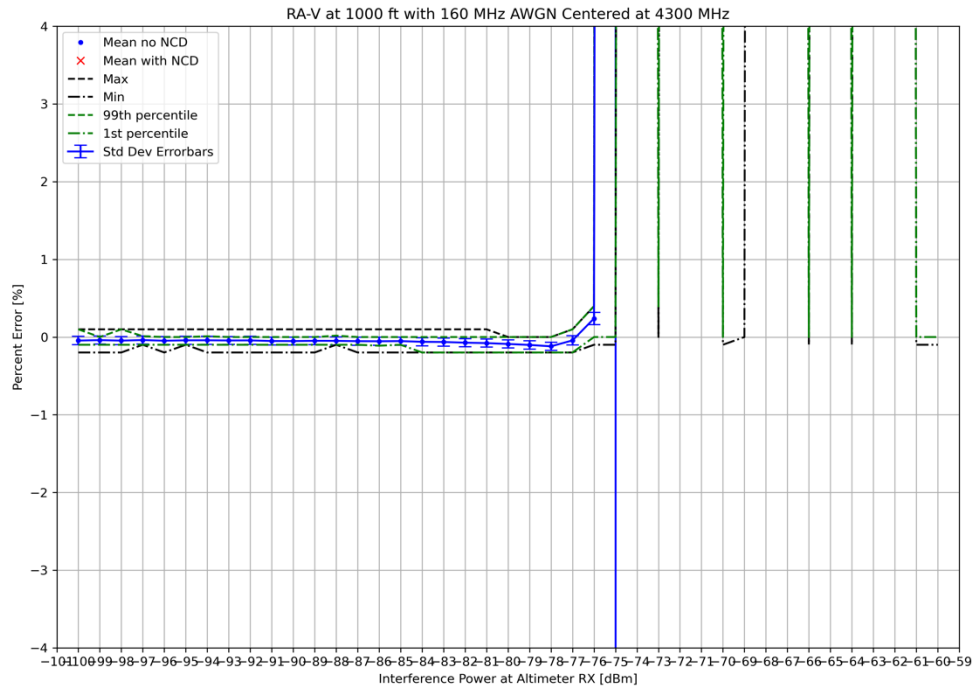

Figure 4-67: UC2 RA-V 1000' AGL Statistics with AWGN at 4300 MHz – Zoomed In

4.5.3 2000 Feet AGL

4.5.3.1 Summary

Table 4-36: UC2 2000' AGL Test Conditions

Source	Rationale	Signal Type	Characteristics	Setting
VSG	5G Spurious IBI	AWGN	160 MHz centered at 4300 MHz	Power Sweep
VCOs 1-2	Own-ship multiplex installation	FMCW	CF: 4300 MHz BW/Sweep Rate per AUT	ON*
VCOs 3-16	WCLS – other aircraft	FMCW		OFF

* – For altimeters capable of multiplex operation. Altimeters I and V had VCOs 1-2 turned off.

Table 4-37: UC2 2000' AGL In-Band Spurious Emissions Break Points

	2000 ft, Own-Ship VCOs			
	4300 MHz			
Altimeter	**ME**	**1%**	**99%**	**NCD**
A	-60 dBm	-61 dBm	-58 dBm	-58 dBm
I	-69 dBm*	-82 dBm	-79 dBm	-64 dBm
S	-60 dBm	-64 dBm*	NB	NB
V	-91 dBm	NB	-91 dBm	-91 dBm
ITM	-97 dBm			
PSD	-119 dBm/MHz			

4.5.3.2 Altimeter A

Table 4-38: UC2 RA-A 2000' AGL In-Band Spurious Emissions Break Point Summary

Center Frequency	Plot	Comments
4300 MHz	Time History Figure 4-68	Shows magnitude of change in measured height over time for increasing interference power levels.
	Statistics Figure 4-69 Figure 4-70	1st percentile measured height is less than the -2% criterion threshold at -61 dBm. Mean error exceeds the ±0.5% criterion threshold at -60 dBm. An NCD occurs at -58 dBm. 99th percentile measured height is greater than the +2% criterion threshold at -58 dBm.

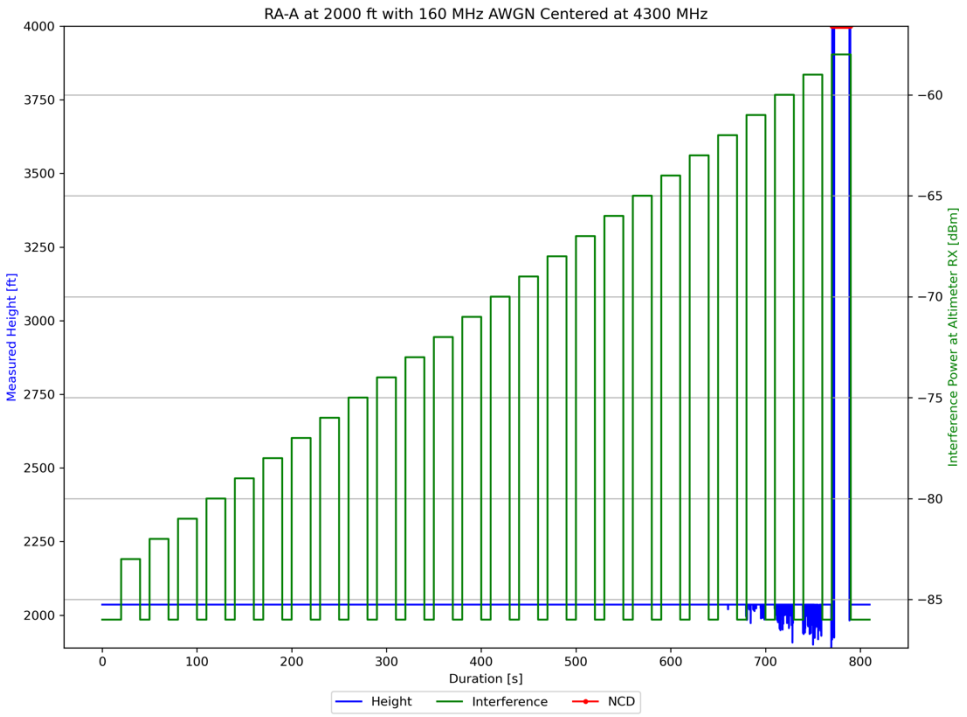

Figure 4-68: UC2 RA-A 2000' AGL Time History with AWGN at 4300 MHz

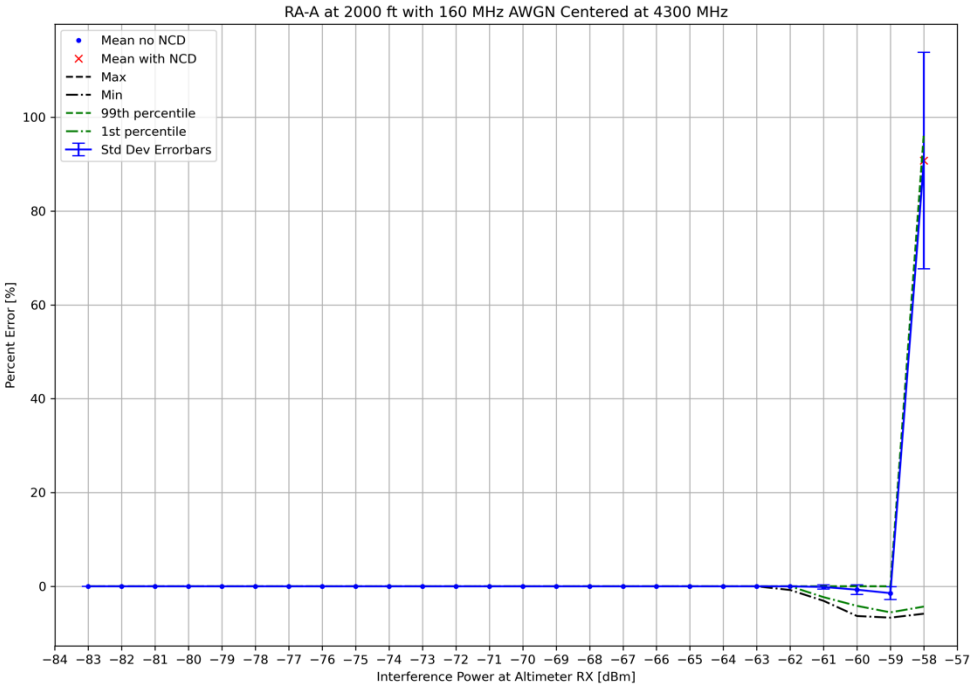

Figure 4-69: UC2 RA-A 2000' AGL Statistics with AWGN at 4300 MHz – Zoomed Out

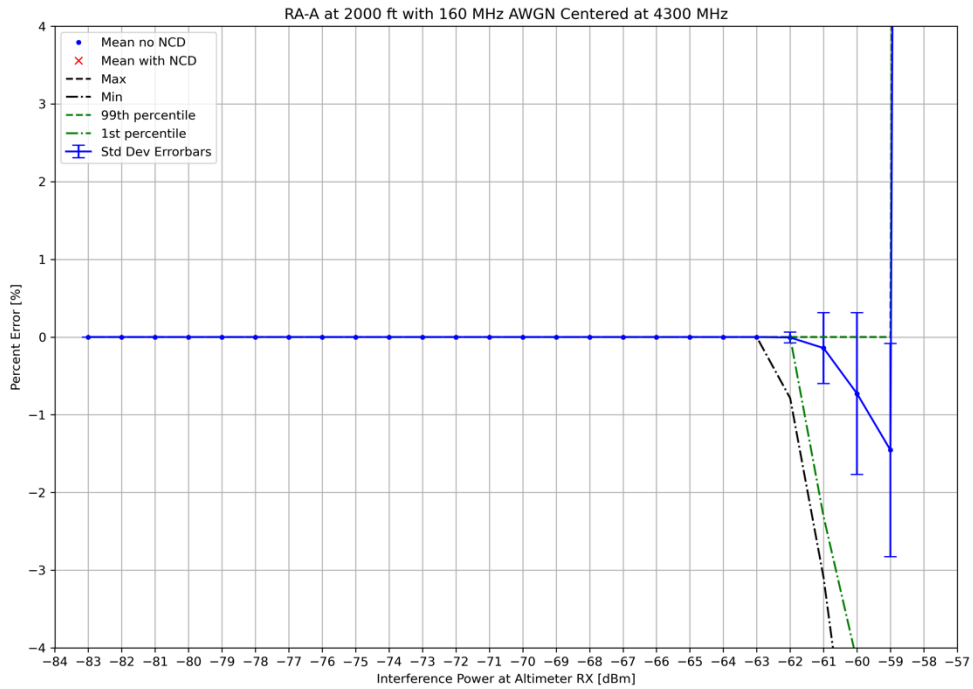

Figure 4-70: UC2 RA-A 2000' AGL Statistics with AWGN at 4300 MHz – Zoomed In

4.5.3.3 Altimeter I

For Altimeter I at 2000 feet AGL, valid measured heights appear to be rounded to the nearest 50 feet. Subject matter experts agreed it was necessary to apply engineering judgement to take this height quantization into account when determining the break points.

Table 4-39: UC2 RA-I 2000' AGL In-Band Spurious Emissions Break Point Summary

Center Frequency	Plot	Comments
4300 MHz	Time History Figure 4-71	Shows magnitude of change in measured height over time for increasing interference power levels.
	Statistics Figure 4-72 Figure 4-73	1st percentile measured height is less than the -2% criterion threshold at -82 dBm. 99th percentile measured height is greater than the +2% criterion threshold at -79 dBm. Mean error exceeds the ±0.5% criterion threshold at -69 dBm. An NCD occurs at -64 dBm. Despite the 1st percentile and 99th percentile criteria being met at -82 dBm and -79 dBm, respectively, subject matter experts agreed that in this case engineering judgement should be applied to use the higher mean error break point at -69 dBm due to the 50 foot height quantization that is apparent in the time history plot.

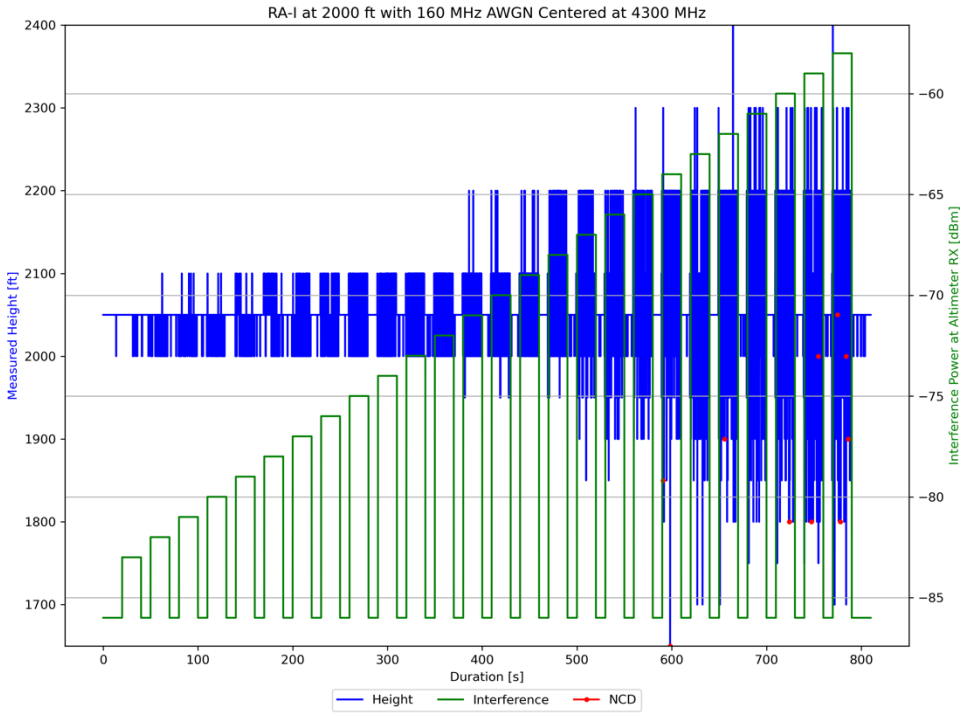

Figure 4-71: UC2 RA-I 2000' AGL Time History with AWGN at 4300 MHz

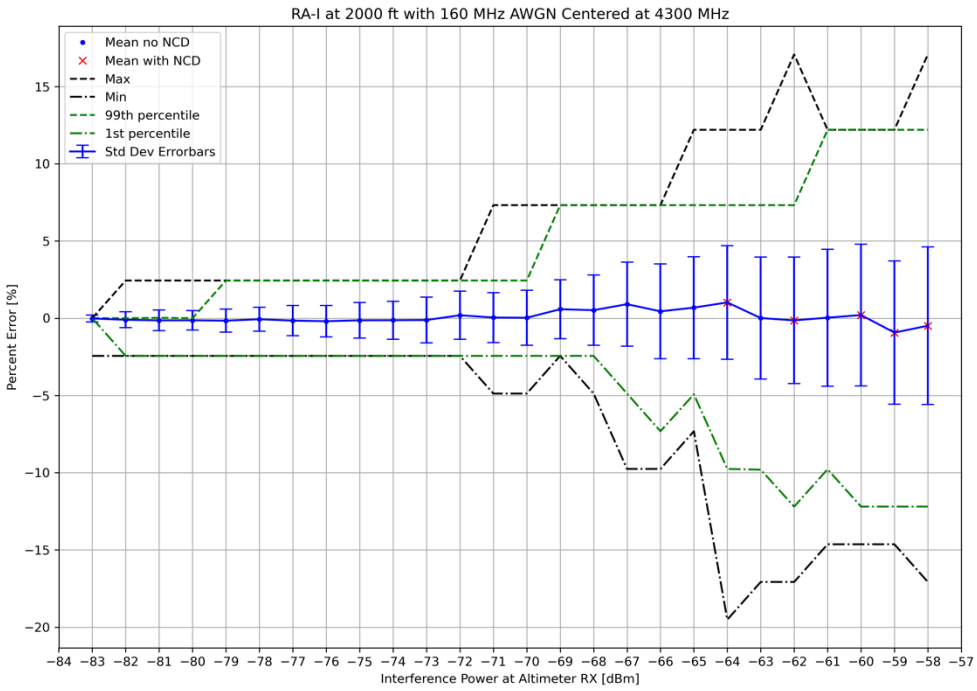

Figure 4-72: UC2 RA-I 2000' AGL Statistics with AWGN at 4300 MHz – Zoomed Out

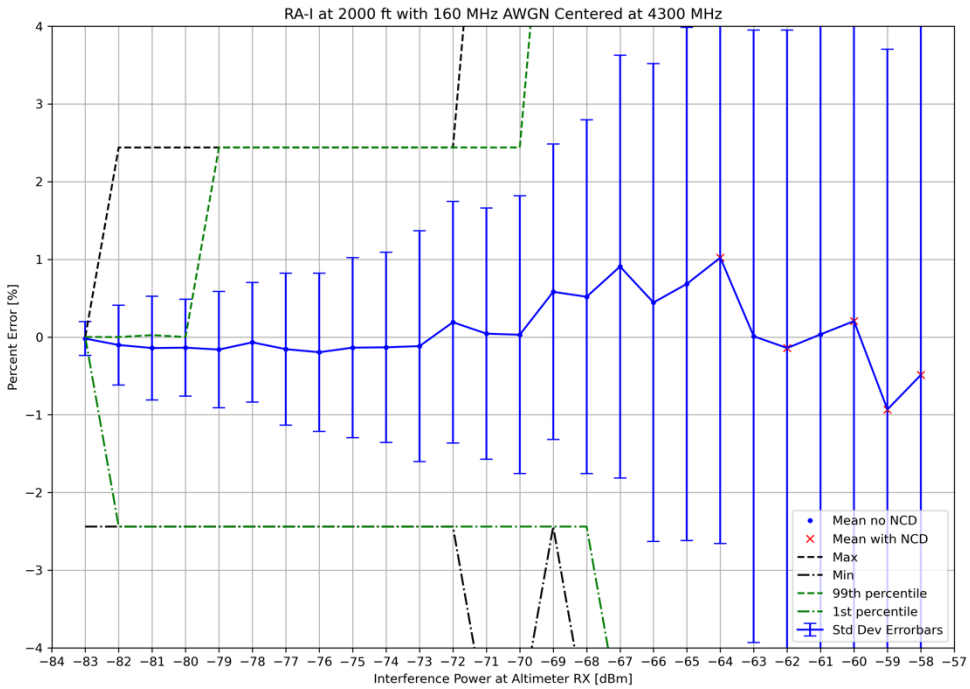

Figure 4-73: UC2 RA-I 2000' AGL Statistics with AWGN at 4300 MHz – Zoomed In

4.5.3.4 Altimeter S

Table 4-40: UC2 RA-S 2000' AGL In-Band Spurious Emissions Break Point Summary

Center Frequency	Plot	Comments
4300 MHz	Time History Figure 4-74	Shows magnitude of change in measured height over time for increasing interference power levels.
	Statistics Figure 4-75	Mean error exceeds the ±0.5% criterion threshold at -60 dBm. 1st percentile measured height is less than the -2% criterion threshold at -59 dBm. However, the time history plot in Figure 4-74 shows that the impact of IBI on the measured height becomes noticeable around -66 dBm, and is clearly evident at -64 dBm. This is reflected more in the change in the 1st percentile height than in the mean error, so subject matter experts applied engineering judgement to set the break point at -64 dBm and attribute this to the 1st percentile criterion.

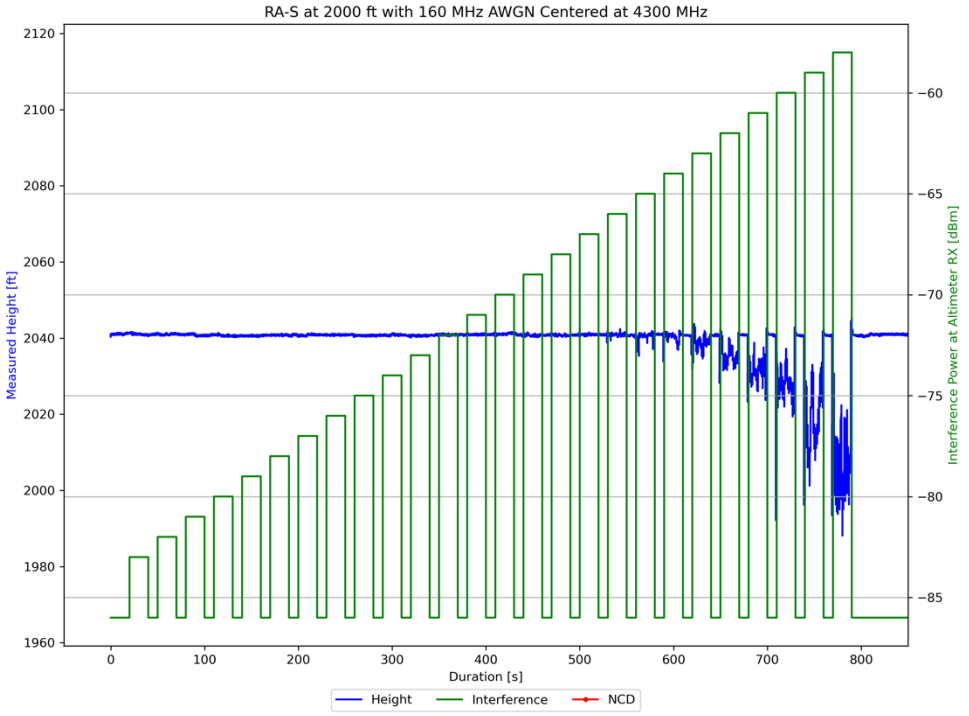

Figure 4-74: UC2 RA-S 2000' AGL Time History with AWGN at 4300 MHz

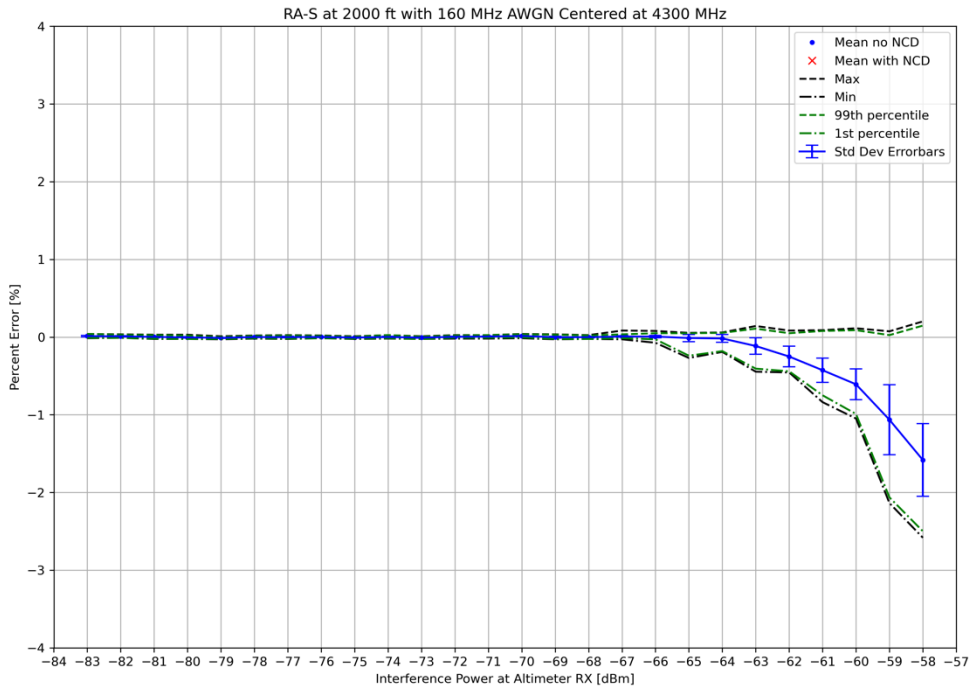

Figure 4-75: UC2 RA-S 2000' AGL Statistics with AWGN at 4300 MHz

4.5.3.5 Altimeter V

Table 4-41: UC2 RA-V 2000' AGL In-Band Spurious Emissions Break Point Summary

Center Frequency	Plot	Comments
4300 MHz	Time History Figure 4-76	Shows magnitude of change in measured height over time for increasing interference power levels.
	Statistics Figure 4-77 Figure 4-78	An NCD occurs at -91 dBm. Mean error exceeds the ±0.5% criterion threshold at -91 dBm. 99th percentile measured height is greater than the +2% criterion threshold at -91 dBm.

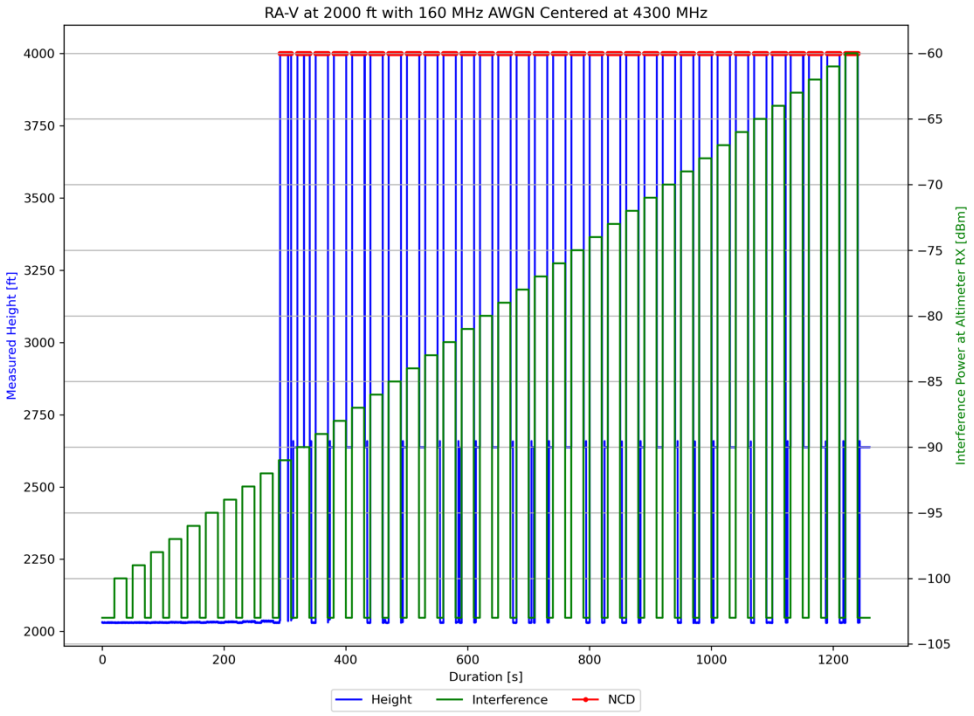

Figure 4-76: UC2 RA-V 2000' AGL Time History with AWGN at 4300 MHz

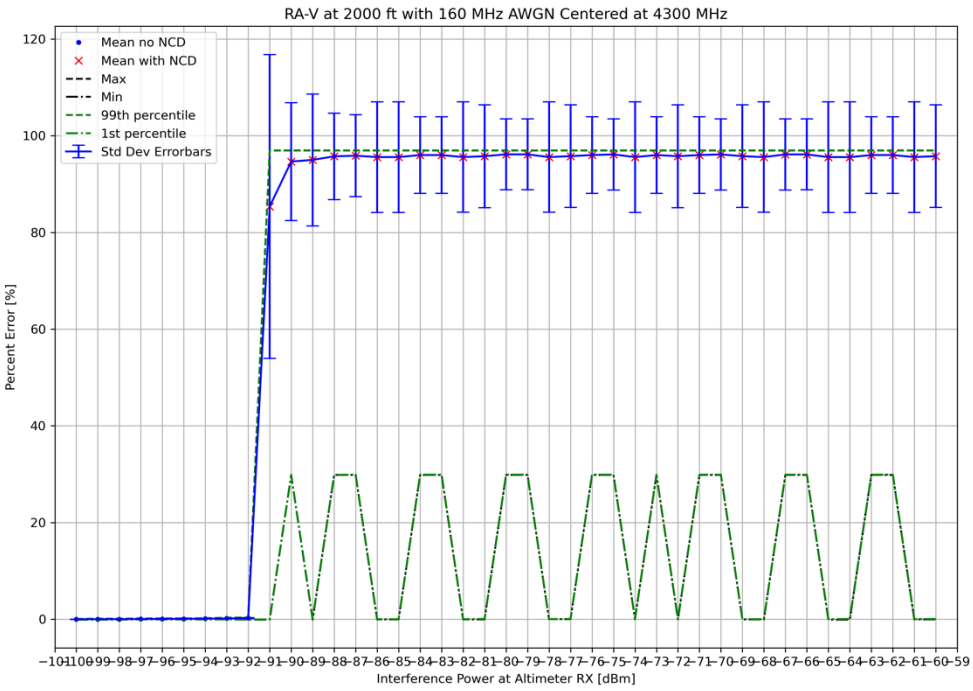

Figure 4-77: UC2 RA-V 2000' AGL Statistics with AWGN at 4300 MHz – Zoomed Out

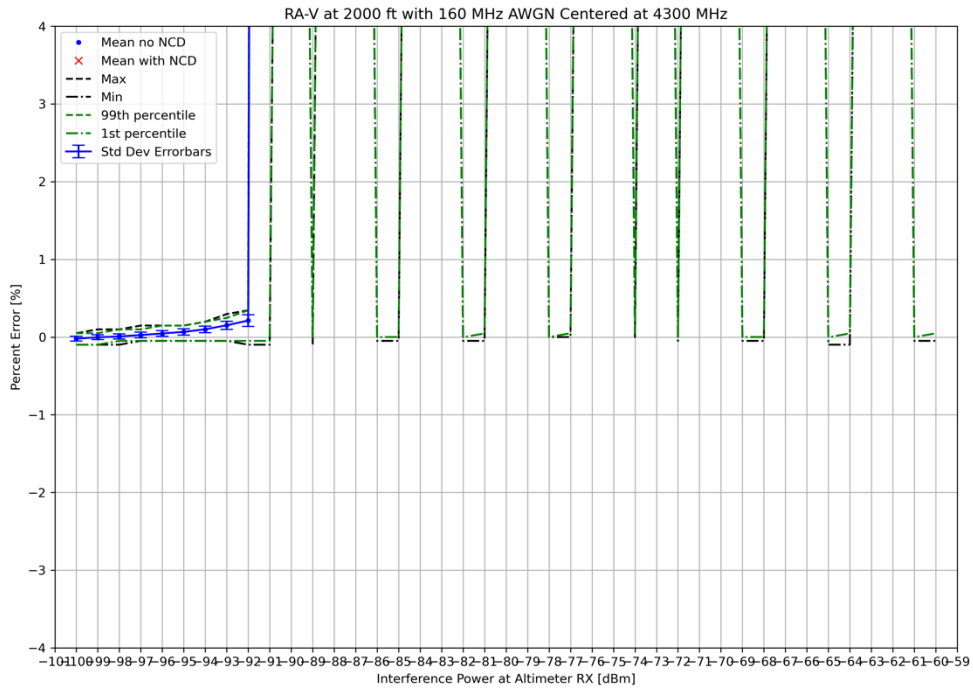

Figure 4-78: UC2 RA-V 2000' AGL Statistics with AWGN at 4300 MHz – Zoomed In

4.6 Usage Category 3 (200’ AGL)

4.6.1 Summary

Table 4-42: UC3 200’ AGL Test Conditions

Source	Rationale	Signal Type	Characteristics	Setting
VSG	5G Spurious IBI	AWGN	160 MHz centered at 4300 MHz	Power Sweep
VCOs 1-2	Own-ship multiplex installation	FMCW	CF: 4300 MHz BW/Sweep Rate per AUT	ON*
VCOs 3-16	WCLS – other aircraft	FMCW	Does not apply to UC3	OFF

* – For altimeters capable of multiplex operation. Altimeters I and V had VCOs 1-2 turned off.

Table 4-43: UC3 200’ AGL In-Band Spurious Emissions Break Points

Altimeter	200 ft, Own-Ship VCOs			
	4300 MHz			
	ME	1%	99%	NCD
A	-43 dBm	NB	-43 dBm	-43 dBm
I	-75 dBm	-68 dBm	-85 dBm	-68 dBm*
S	-40 dBm	-43 dBm*	NB	NB
V	-62 dBm	NB	NB	NB
ITM	-74 dBm			
PSD	-96 dBm/MHz			

4.6.2 Altimeter A

Table 4-44: UC3 RA-A 200' AGL In-Band Spurious Emissions Break Point Summary

Center Frequency	Plot	Comments
4300 MHz	Time History Figure 4-79	Shows magnitude of change in measured height over time for increasing interference power levels.
	Statistics Figure 4-80 Figure 4-81	An NCD occurs at -43 dBm. Mean error exceeds the ±0.5% criterion threshold at -43 dBm. 99th percentile measured height is greater than the +2% criterion threshold at -43 dBm.

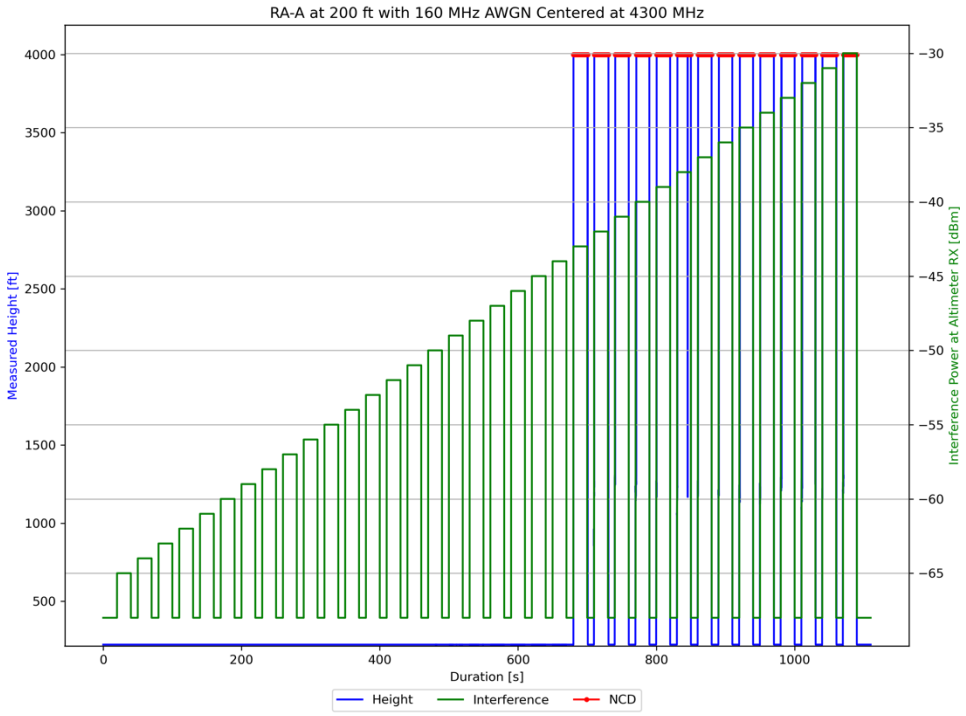

Figure 4-79: UC3 RA-A 200' AGL Time History with AWGN at 4300 MHz

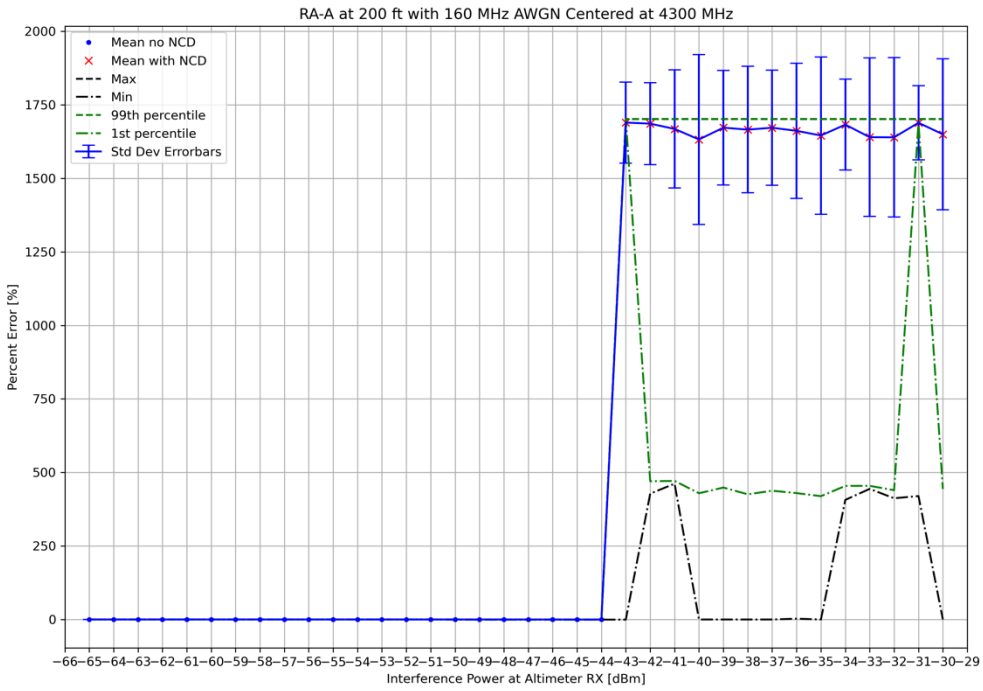

Figure 4-80: UC3 RA-A 200' AGL Statistics with AWGN at 4300 MHz – Zoomed Out

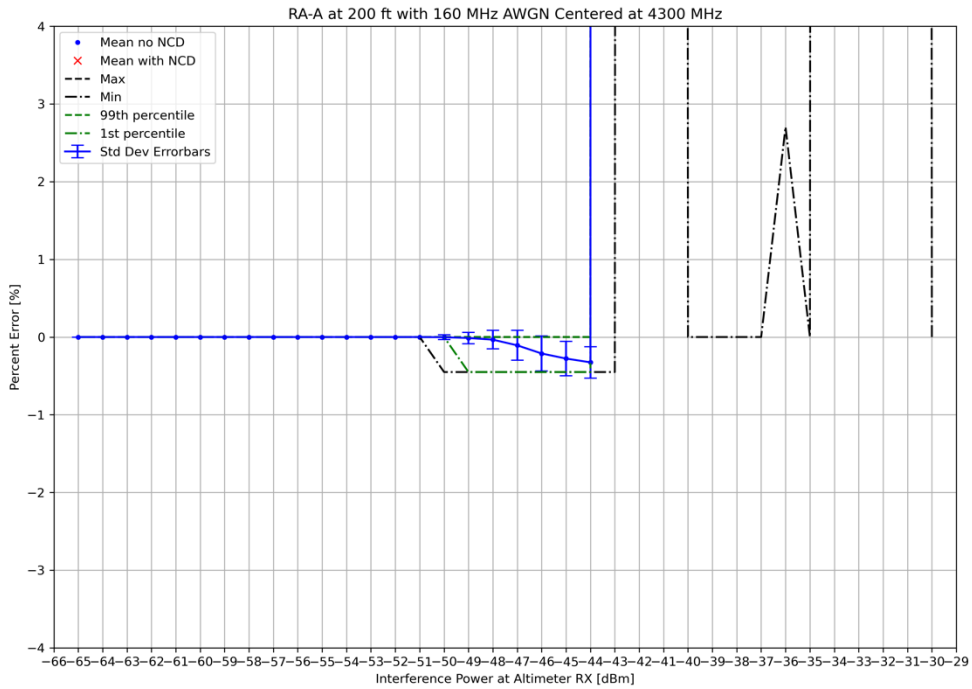

Figure 4-81: UC3 RA-A 200' AGL Statistics with AWGN at 4300 MHz – Zoomed In

4.6.3 Altimeter I

For Altimeter I at 200 feet AGL, valid measured heights appear to be rounded to the nearest 5 feet. Subject matter experts agreed it was necessary to apply engineering judgement to take this height quantization into account when determining the break points.

Table 4-45: UC3 RA-I 200' AGL In-Band Spurious Emissions Break Point Summary

Center Frequency	Plot	Comments
4300 MHz	Time History Figure 4-82 Figure 4-83	Shows magnitude of change in measured height over time for increasing interference power levels.
	Statistics Figure 4-84 Figure 4-85	99th percentile measured height is greater than the +2% criterion threshold at -85 dBm. Mean error exceeds the ±0.5% criterion threshold at -75 dBm. An NCD occurs at -68 dBm. 1st percentile measured height is less than the -2% criterion threshold at -68 dBm. The 99th percentile criterion is exceeded at -85 dBm, but the measured height quantization apparent in Figure 4-83 is more than 2% at this altitude. Thus, this criterion was not considered as the break point. Figure 4-82 Figure 4-84 show that the altimeter is relatively well behaved up to -71 dBm, thus subject matter experts agreed that in this case engineering judgement should be applied to use the higher NCD break point at -68 dBm.

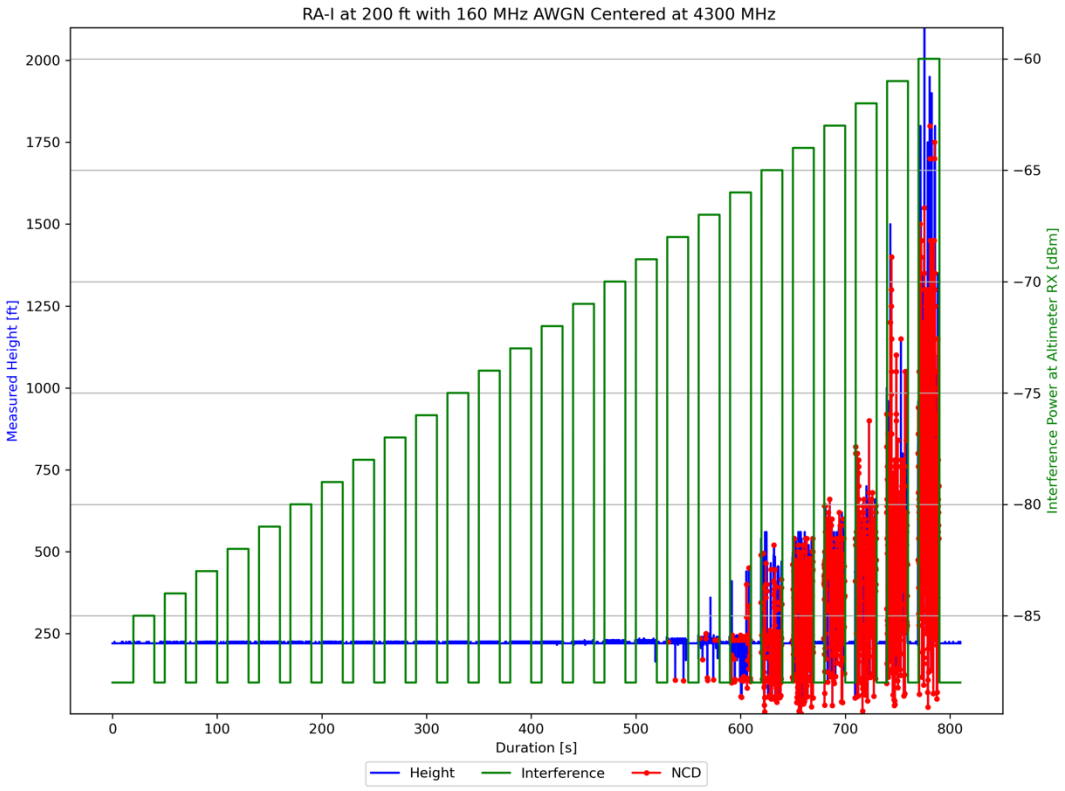

Figure 4-82: UC3 RA-I 200' AGL Time History with AWGN at 4300 MHz – Zoomed Out

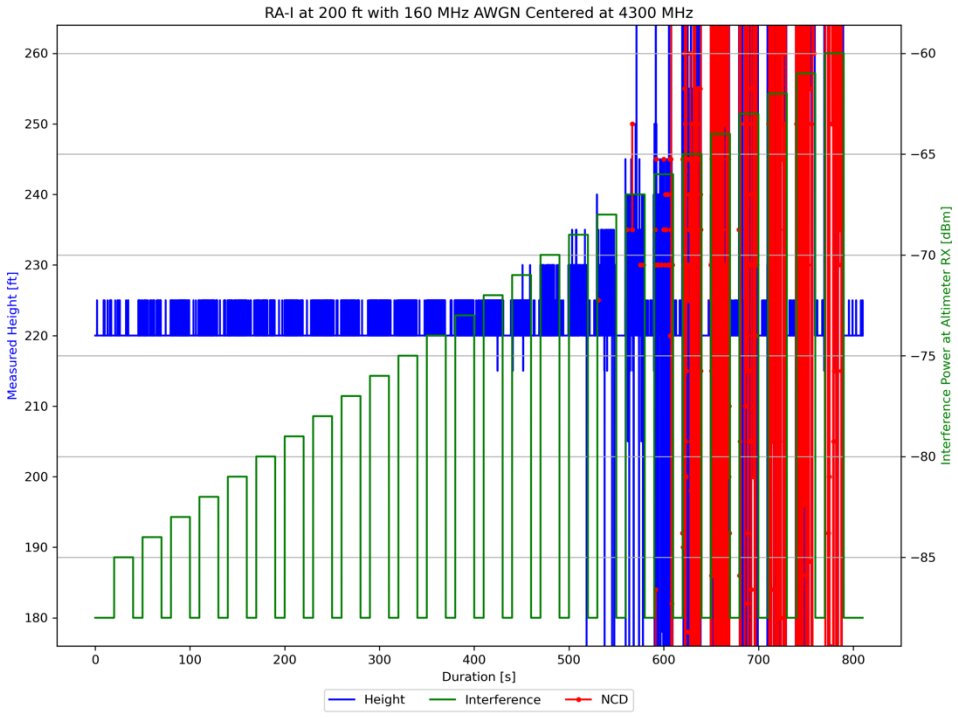

Figure 4-83: UC3 RA-I 200' AGL Time History with AWGN at 4300 MHz – Zoomed In

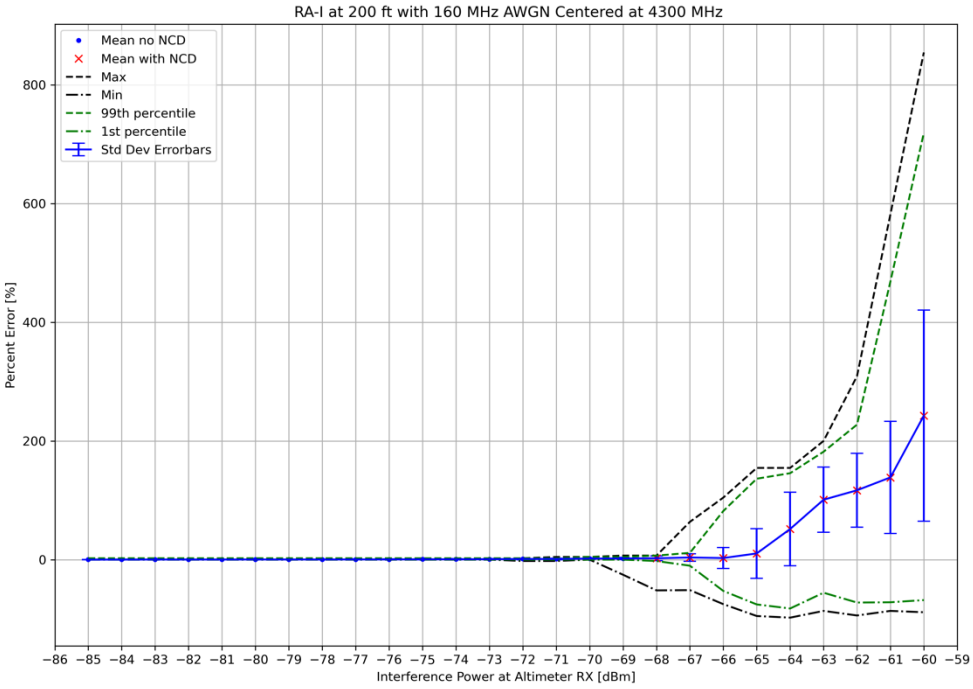

Figure 4-84: UC3 RA-I 200' AGL Statistics with AWGN at 4300 MHz – Zoomed Out

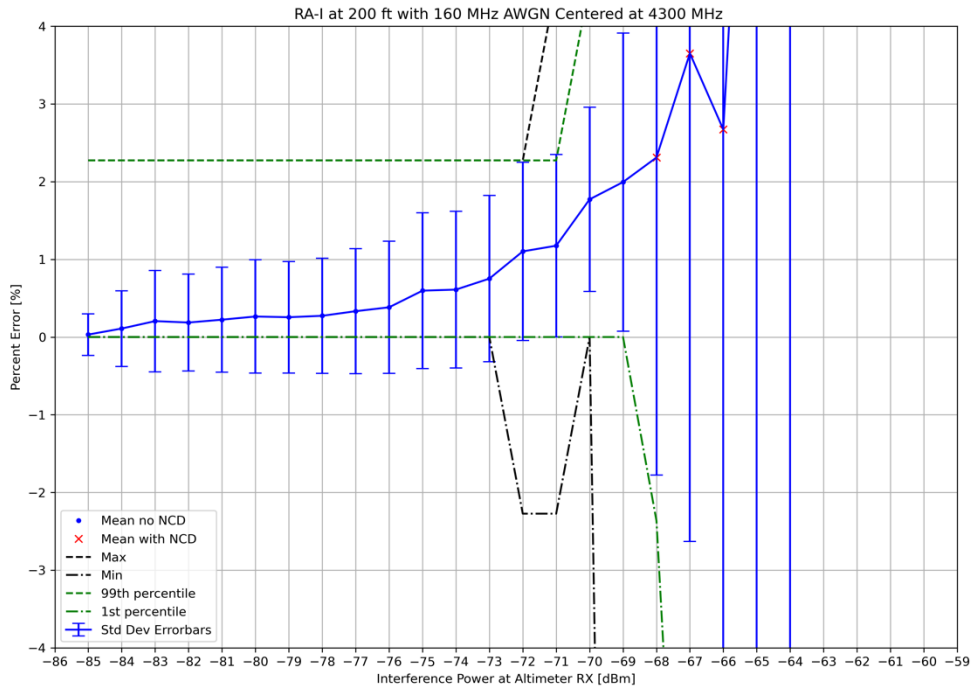

Figure 4-85: UC3 RA-I 200' AGL Statistics with AWGN at 4300 MHz – Zoomed In

4.6.4 Altimeter S

Table 4-46: UC3 RA-S 200' AGL In-Band Spurious Emissions Break Point Summary

Center Frequency	Plot	Comments
4300 MHz	Time History Figure 4-86	Shows magnitude of change in measured height over time for increasing interference power levels.
	Statistics Figure 4-87 Figure 4-88	Mean error exceeds the ±0.5% criterion threshold at -40 dBm. 1st percentile measured height is less than the -2% criterion threshold at -40 dBm. However, the time history plot in Figure 4-86 shows that the impact of IBI on the measured height becomes noticeable around -46 dBm, and is clearly evident at -43 dBm. This is reflected more in the change in the 1st percentile height than in the mean error, so subject matter experts applied engineering judgement to set the break point at -43 dBm and attribute this to the 1st percentile criterion.

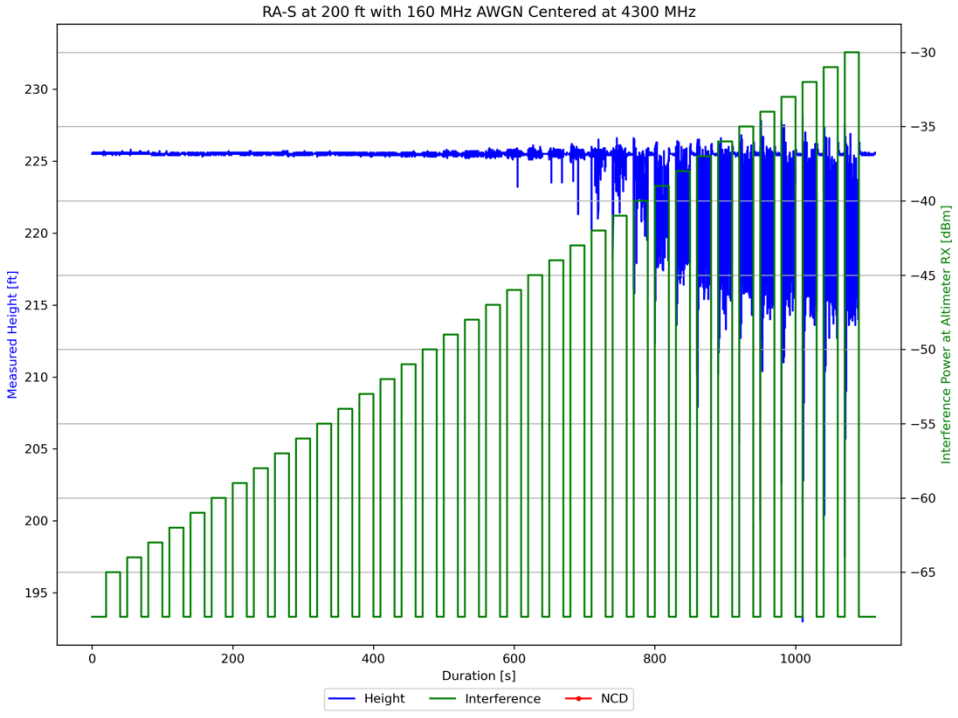

Figure 4-86: UC3 RA-S 200' AGL Time History with AWGN at 4300 MHz

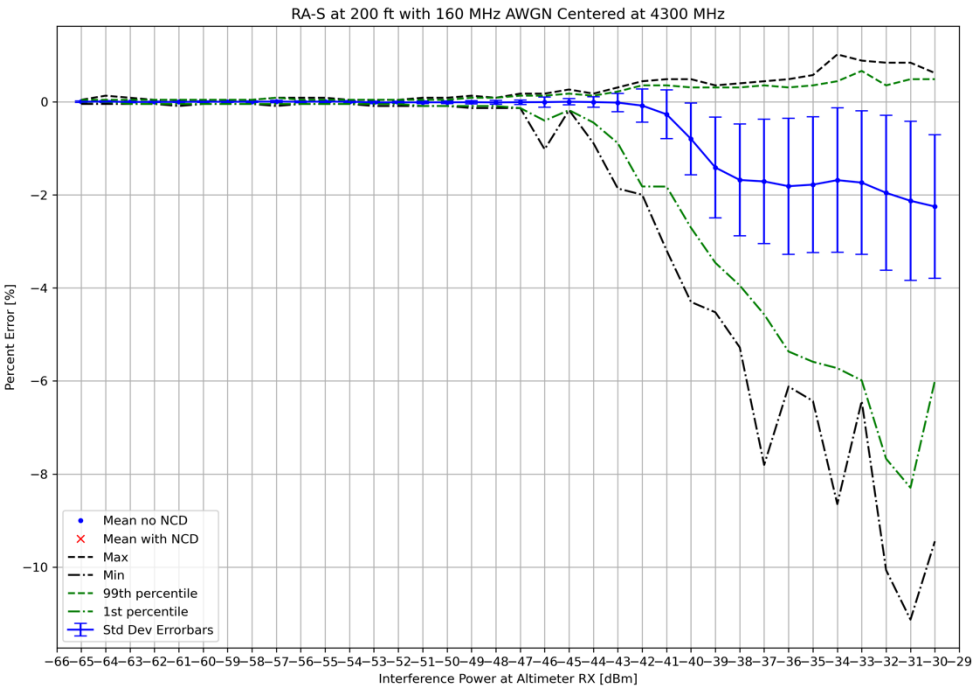

Figure 4-87: UC3 RA-S 200' AGL Statistics with AWGN at 4300 MHz – Zoomed Out

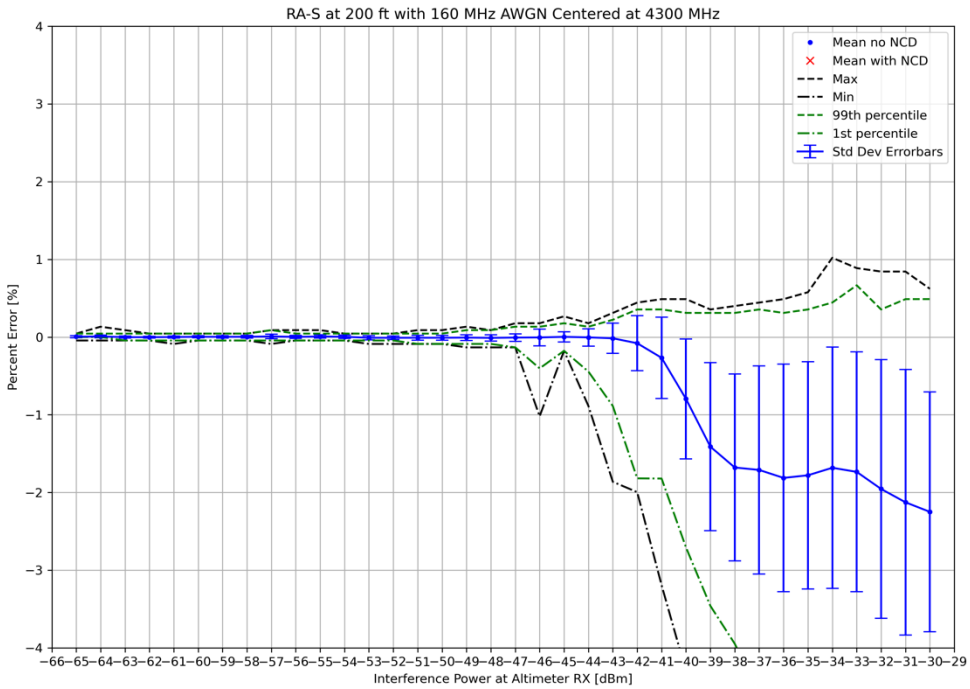

Figure 4-88: UC3 RA-S 200' AGL Statistics with AWGN at 4300 MHz – Zoomed In

4.6.5 Altimeter V

Table 4-47: UC3 RA-V 200' AGL In-Band Spurious Emissions Break Point Summary

Center Frequency	Plot	Comments
4300 MHz	Time History Figure 4-89	Shows magnitude of change in measured height over time for increasing interference power levels.
	Statistics Figure 4-90	Mean error exceeds the ±0.5% criterion threshold at -62 dBm.

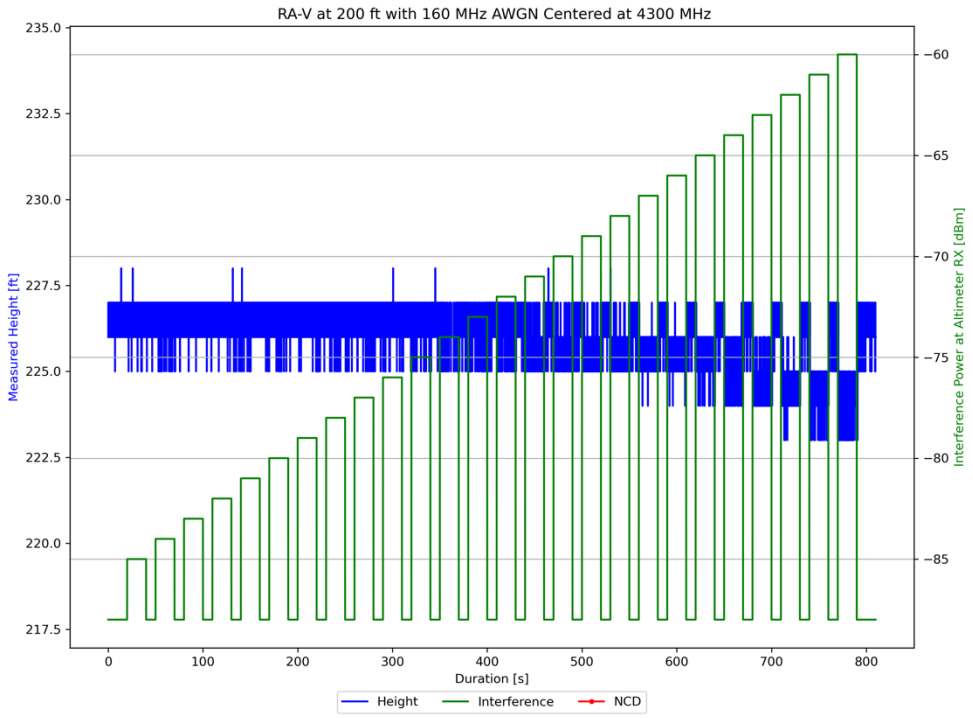

Figure 4-89: UC3 RA-V 200' AGL Time History with AWGN at 4300 MHz

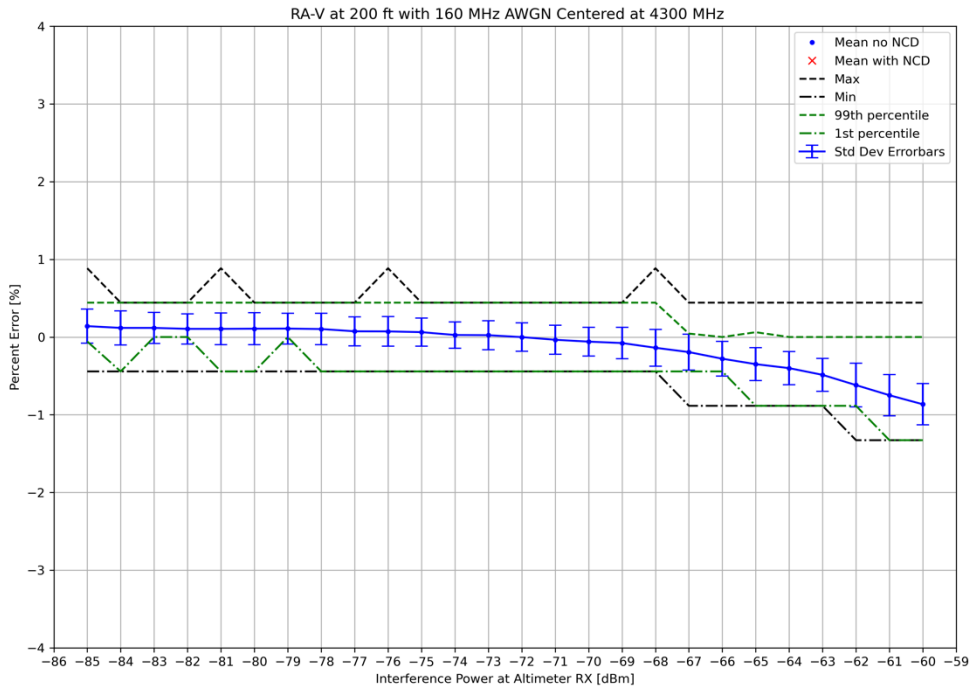

Figure 4-90: UC3 RA-V 200' AGL Statistics with AWGN at 4300 MHz